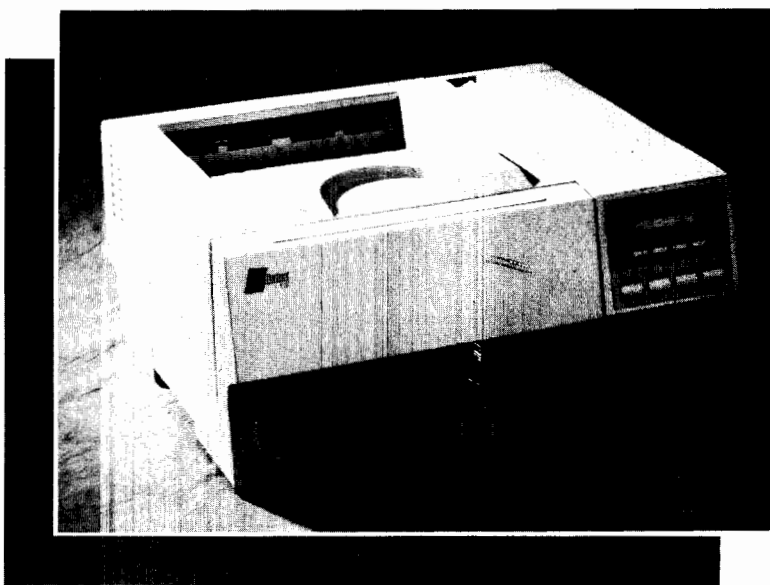


Print Partner™

10/10W



10 PPM Laser Printer

Welcome

We are pleased that you purchased the PrintPartner 10/10W. We feel confident that you will find your new laser printer more than adequate to meet your printing needs.

To make the best use of the PrintPartner 10/10W, you should read the information in this manual carefully and follow the instructions provided.

The documentation for this printer is divided into three parts. The **user's manual** you are now reading and the **quick reference guide** are provided without charge. This user's manual is a complete guide to using the PrintPartner 10/10W, and include information on setting up the printer, user maintenance, and instructions on how to operate the machine. The quick reference guide is an easy-to-use reference to assist you in remembering the commands and procedures required to operate the printer.

The **emulation guide** is sold separately and explains the programming commands you can use to manipulate the emulations incorporated in the PrintPartner 10/10W. You can order the emulation guide from your PrintPartner 10/10W dealer.

This documentation is protected by copyright. This printer and/or the accompanying documentation may be modified for improvements at any time without prior notice.

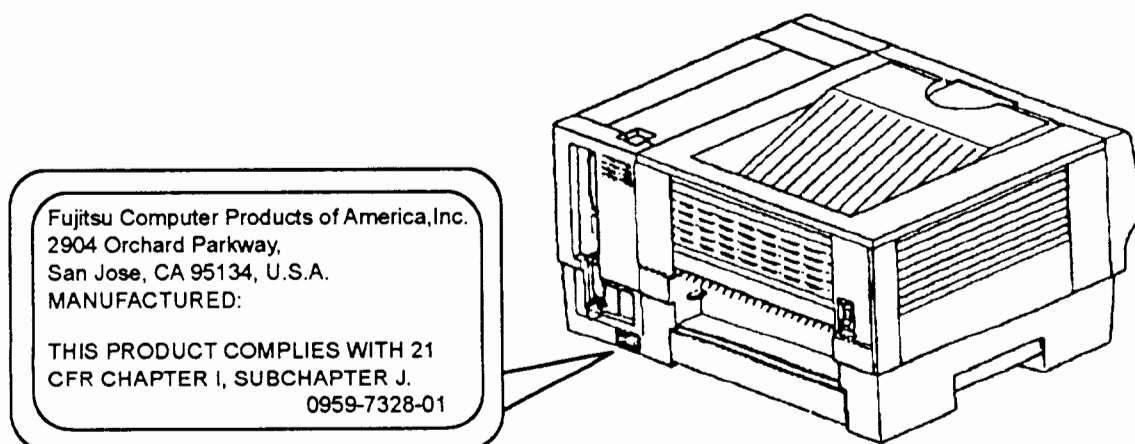
No part of this documentation may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into other languages without prior written consent from Fujitsu Computer Products of America, Inc.

General Safety Information

This printer is certified as a **Class 1 laser product**. This means the printer does not produce hazardous laser radiation.

CAUTION:

The use of controls, adjustments, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. Because of this, Minolta strongly recommends that you operate your printer only as described in this documentation.



During printer operation, a small quantity of ozone is released. This amount is not large enough to harm human beings adversely. However, be sure the room where the printer is being used has adequate ventilation, especially if you are printing a high volume of materials, or if the printer is being used continuously over a long period.

Internal Laser Radiation

Maximum radiation power: 5.7×10^{-4} (w)

Wave length: 780 nm

- Safety Instructions**
- Unplug the printer from the power supply before cleaning it. Use a damp cloth for cleaning. Do not use liquid or aerosol cleaners.
 - Do not use this printer near water or in a damp environment.
 - The slots and openings in the cabinet and at the rear and bottom of the unit are provided for ventilation. Do not block these openings. This prevents the printer from overheating resulting in unreliable operation.

- Operate this printer only through the use of an AC electrical power source, as indicated on the label. Consult your dealer or local electrical company if you are unsure of the type of AC electrical power source available.
- Do not attempt to service this printer yourself. Operations other than those described in the chapter on user maintenance should be referred to qualified service personnel.

FCC Rules

This device must be used with shielded interface cables not in excess of 2 meters in length. The use of non-shielded cables or cables in excess of two meters in length is likely to result in interference with radio communications and is prohibited under FCC rules.

— WARNING —

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio-TV technician for help.

The design and production of this unit conform to FCC regulations, and any changes or modifications must be registered with the FCC and are subject to FCC control. Any changes made by the purchaser or user without first contacting the manufacturer will be subject to penalty under FCC regulations.

**DOC Rules
(Canada only)**

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

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PostScript is a trademark of Adobe Systems Inc.

Epson FX-850 is a trademark of Seiko Epson Corporation.

MS-DOS and TrueImage are trademarks of Microsoft Corporation.

System 7, TrueType, and AppleTalk are trademarks of Apple Corporation.

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Chapter **1**

Introduction

Introduction

The PrintPartner 10/10W laser printer provides an outstanding range of features, including emulations of the Hewlett-Packard LaserJet III and the new TrueImage* page description language from Microsoft. This powerful combination of leading technologies ensures that the PrintPartner 10/10W is capable of meeting most laser printing needs.

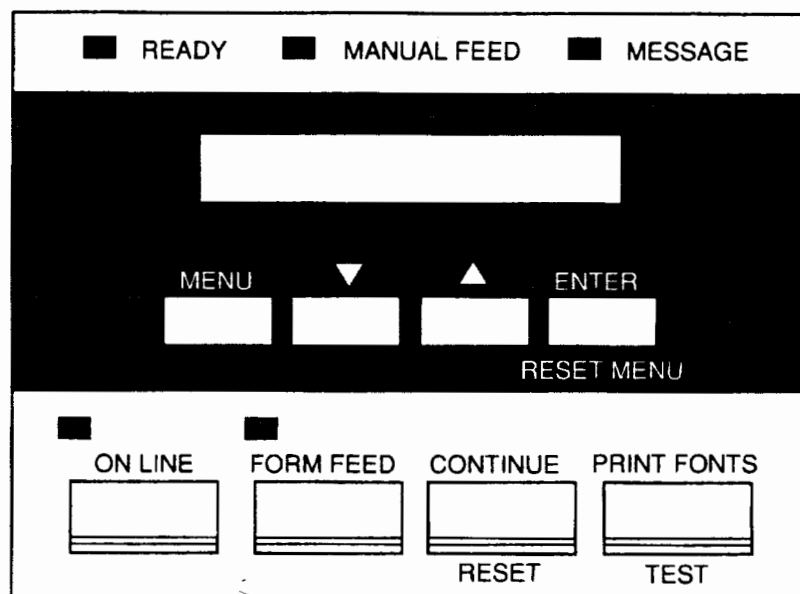
With a resolution of 300 dots per inch (dpi) at 10 pages per minute, the PrintPartner 10/10W offers efficient, high-quality printing. It also provides options like Image Reverse, a feature that can print a reverse image of the black and white areas of your data.

The Automatic Interface Switching function makes this printer ideal for multi-user situations. The AIS system switches automatically to select the interface port where data is being received. This helps avoid the loss of time and confusion that can arise from changing communications ports manually.

This manual guides you through setting up the printer, informs you how to keep it in top working condition, and provides instructions on the various printing operations. Read through the manual carefully and refer to it as needed to obtain the best use of your laser printer.

* TrueImage comes standard with the PrintPartner 10W and is an option for the PrintPartner 10.

Operation Panel



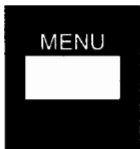
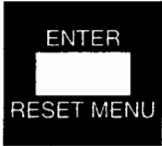
The Operation Panel provides an easy-to-use key system for controlling the PrintPartner 10/10W. The keys are used with the 16-character Liquid Crystal Display (LCD) to select the settings that will be implemented during printing operations. In addition, five indicators are provided to show the printer's current operating conditions. The following pages introduce the basic functions of these keys and indicators.

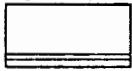
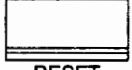
Summary of Keys and Indicators

This section summarizes the key and indicator functions on the Operation Panel of the PrintPartner 10/10W laser printer. You can find more information on the use of these keys in the chapter *Basic Operations*.

Key functions

The functions of the Operation Panel keys are described below.

	Use this key to access one of the two menus. • Press the key briefly to call up the Print Menu. • Press the key continuously to call up the Configuration Menu. • Once you select a menu, you can press the key again to bring up the next menu item on the display. (Refer to the chapter <i>Basic Operations</i> for more information about these menus.)
	Use these keys to display the following or previous value for an item in a menu. • Press either key continuously to scroll through the items in a menu. • During RETENTION mode, you can use these keys to select the number of copies you want to print of a specified page.
	ENTER: Press the key briefly. During either of the menu display modes, press this key to enter the selection being displayed. • An asterisk appears in the display next to currently selected menu settings. RESET MENU: Press the key continuously. Press this key to return the items in the Print Menu to the factory default settings. • Pressing this key clears all page data, temporary soft font settings, and macro settings that have been stored in memory. • This key is enabled only if the printer has been set off-line.

	Explanation
ON LINE 	Press this key to set the printer off-line, enabling the use of other keys to check and change settings on the Operation Panel. • After you select the settings, press this key again to return the printer to ON LINE status. • Press this key after switching on the power to select the factory default settings.
FORM FEED 	Press this key to print all of the page data stored in memory. • During RETENTION mode, this key calls up the EXTRA COPY display so you can print out additional copies of the selected page. • The key does not feed a blank page through the printer.
CONTINUE  RESET	CONTINUE: Press the key briefly. Press this key to clear some error status situations and return the printer to ON LINE status. • This key overrides manual feed and paper size requests. • During PRINT PREV mode, use this key to continue printing operations. RESET: Press the key continuously. This key resets the internal printer settings. • Press this key to clear all page data, temporary soft font settings, and macro settings that have been stored in memory. • During the PRINT PREVIEW mode, use this key to stop printing operations.
PRINT FONTS  TEST	PRINT FONTS: Press the key briefly. Press this key to print all the fonts available in the PrintPartner 10/10W memory. • This key cannot be used while the FORM FEED LED is lit. TEST: Press the key continuously. Press this key to print test patterns and a list of the current printer settings. • This key cannot be used while the FORM FEED LED is lit.

Indicators

The indicator conditions on the Operation Panel are described below.

Indicator	Explanation
READY	ON: The printer is ready to print. Flashing: The printer is preparing for ready status. OFF: An error occurred.
MANUAL FEED	ON: Manual feed is selected. OFF: Manual feeding is not selected.
MESSAGE	ON: An error occurred. OFF: Normal status.
ON LINE	ON: The printer is ready to receive data. Flashing: The printer is receiving or processing data. OFF: The printer is unable to receive data.
FORM FEED	ON: Page data is stored in bitmap memory. OFF: Page data is not stored in bitmap memory.

Chapter --- *Setting Up* **2**

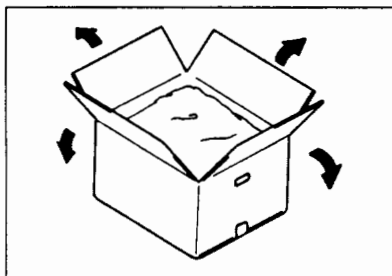
In this chapter

This chapter provides information for setting up the PrintPartner 10/10W.

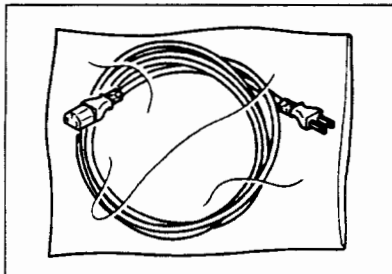
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Unpacking the PrintPartner 10/10W

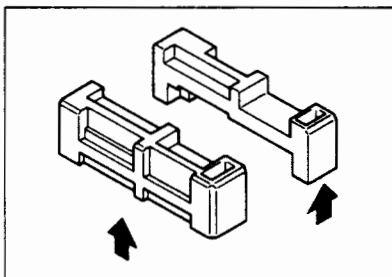
Follow these instructions to unpack the PrintPartner 10/10W laser printer.



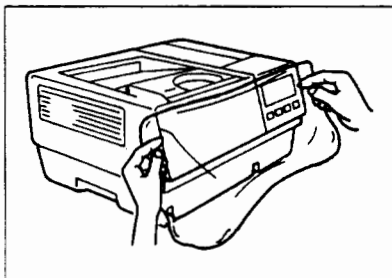
1. Open the packing box.



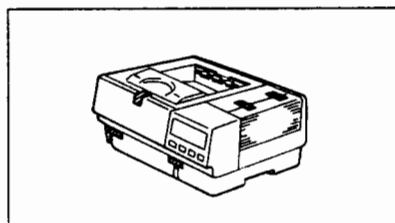
2. Remove the power cord from the box.



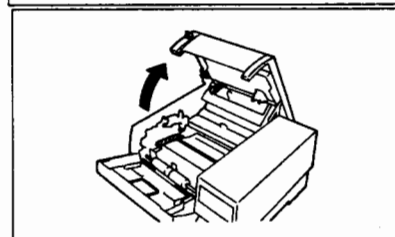
3. Remove the upper packing cushions from the box. Remove the printer unit and place it on a stable surface.



4. Remove the protective plastic covering from the main unit.



5. Remove the packing tape that holds various parts of the unit in place.



6. Open the universal tray (manual feed) and the upper unit of the printer. Remove the packing material from inside the printer.

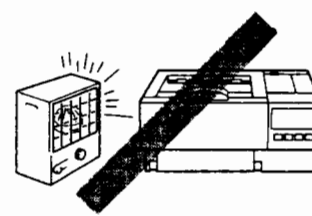
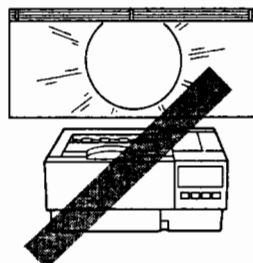
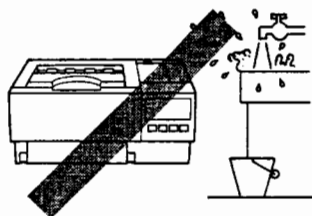
— Opening the printer—

Refer to page 2-7 for instructions on how to open the printer.

Installation conditions

It is important to select the proper environment for setting up and using the PrintPartner 10/10W. To obtain optimum performance from your printer, use 18 - 24 lb paper stored and used at temperatures from 59 - 77°F (15-25°C) and 35 to 70% relative humidity. In addition, please note the following:

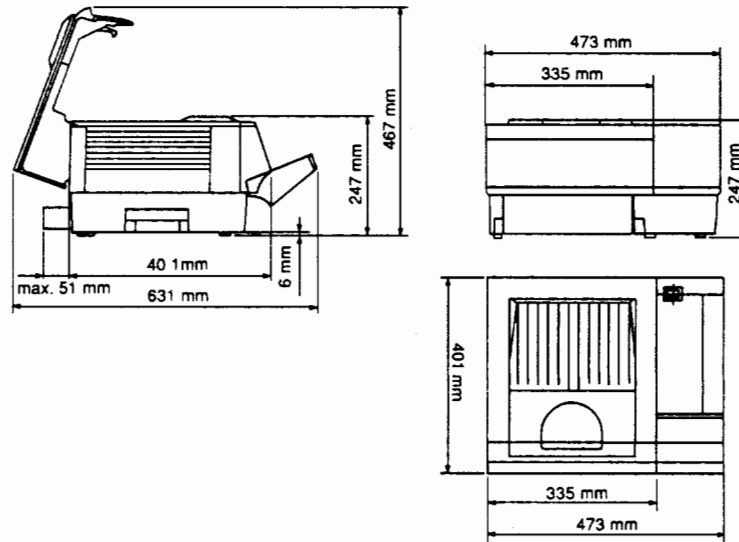
- Be sure the room is well ventilated.
- Install the printer close to an easily accessible power supply.
- Avoid exposure to direct sunlight.
- Avoid dusty areas and rooms subject to extreme changes in humidity or heat.
- Place the printer on a stable surface. Avoid areas that may be subject to strong vibrations.
- Do not place the printer where it could easily get wet or be exposed to corrosive gases such as ammonia.
- Do not place the printer near a heater or air conditioning system.



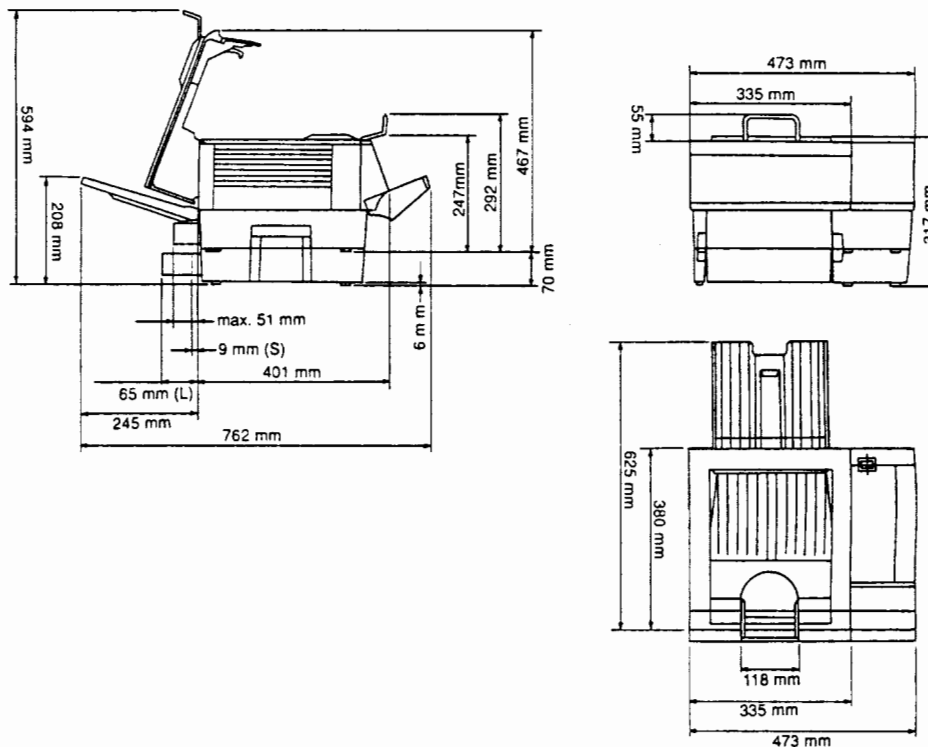
Space requirements

The illustrations below show the minimum space required for installing your printer. The space requirements are different depending on whether or not you have printer options installed.

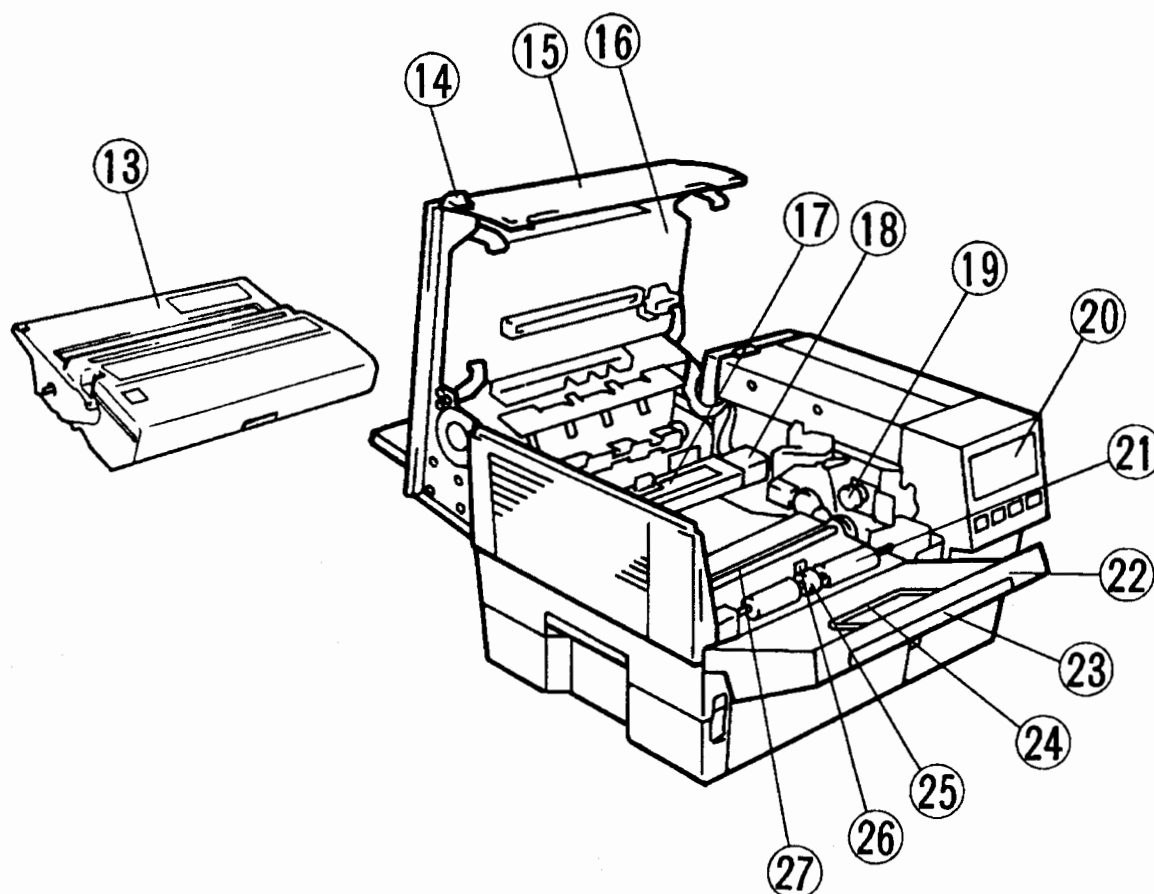
Installed without options



Installed with full options



Printer components The components of the PrintPartner 10/10W are identified in the illustration below. The component names identified here are used throughout this manual.

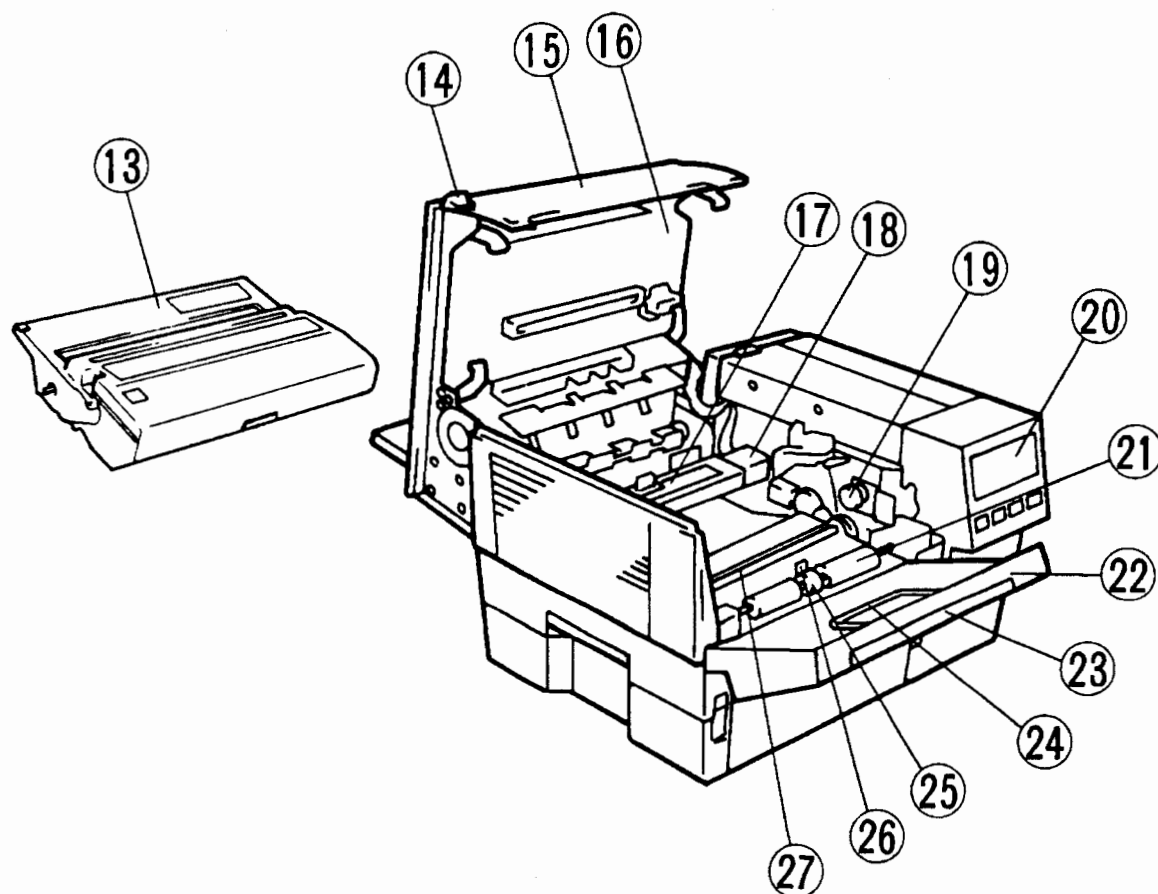


- | | |
|----------------------------------|--|
| 1. Power ON/OFF Switch | 7. Paper Cassette |
| 2. Paper Exit Supporting Prop ** | 8. Power Socket |
| 3. Face Down Tray | 9. Parallel Interface Connector |
| 4. Face Up Exit Brush * | 10. AppleTalk Interface Connector
*** (covered by tape) |
| 5. Paper Exit Mode Switch | 11. Serial Interface Connector |
| 6. Face Up Tray * | 12. Second Paper Cassette Unit (SPCU) * |

*Optional Parts

** Supplied with an optional legal size paper cassette

*** The AppleTalk interface is operational only when the TrueImage board is installed.



- 13. Imaging Cartridge
- 14. Upper Unit Lock Release Lever
- 15. Upper Unit
- 16. Print Head Unit (Optical Unit)
- 17. Cleaning Pad
- 18. Fusing Unit
- 19. Image Density Adjustment Knob
- 20. Operation Panel

- 21. Upper 1st Transport Rolls
- 22. Universal Tray
- 23. Auxiliary Manual Feed Tray
- 24. Manual Feed Supporting Prop
- 25. Manual Feed Roll
- 26. Synchronizing Roller Release Lever
- 27. Synchronizing Roller

Opening and Closing the Printer

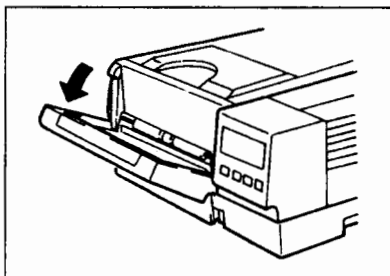
Opening the Printer

You can open the PrintPartner 10/10W to two different positions:

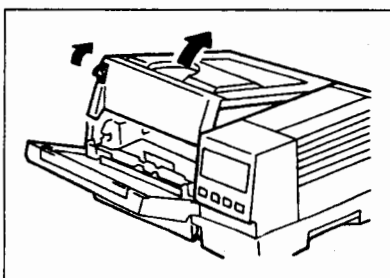
— Open positions —

Position 1 (approximately 45°): Open the printer to this position when installing or removing the imaging cartridge or when removing jammed paper from inside the unit.

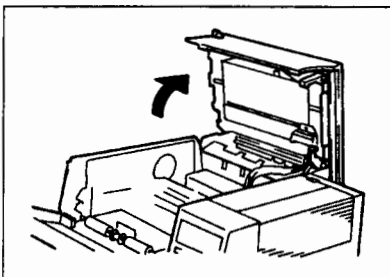
Position 2 (approximately 80°): Open the printer to this position when cleaning the interior of the printer or when removing jammed paper from the area near the fusing unit.



1. Open the universal tray (manual feed).



2. Push up on the lock release lever, and lift up to open the upper unit to the first open position (about 45 degrees).



3. Raise the unit, and let it settle into the second open position (about 80 degrees).

Closing the Printer To close the printer, press down on the front edge of the upper unit until it approaches the closed position. Then, press down to close the upper unit. You will hear a click when the Lock Release Lever returns to position. At this point, close the universal tray (manual feed).

The Imaging Cartridge

In a laser printer, characters and images are created through a process that applies toner (made of carbon particles) to the page in the machine's fusing unit. An image is formed, and heat and pressure are then applied to transfer the image to the page. The toner used in this operation is supplied from the imaging cartridge.

You should handle the imaging cartridge carefully to ensure proper performance when it is installed in the printer. Do not place the cartridge in direct sunlight or expose it to direct light of any kind. Store the cartridge in an environment that is not subject to extreme heat or humidity. Detailed information on the care and handling of the imaging cartridge is provided on the packing box.

The imaging cartridge is constructed from non-hazardous material so it can be disposed of freely. Consult the regulations for the disposal of such products in your area.

The cleaning pad removes excess toner from the fusing roller to maintain high printing quality. The cleaning pad comes in the same box that contains the imaging cartridge and should be installed before you install the imaging cartridge.

Installing the Cleaning Pad

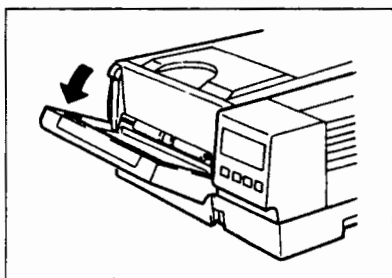
Turn off the Power ON/OFF Switch of the PrintPartner 10/10W before proceeding. Then, follow the instructions below to install the cleaning pad.

— Install the pad correctly —

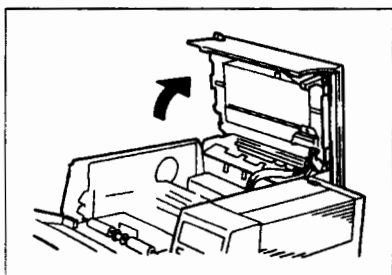
Be sure that the cleaning pad is facing the correct direction before you install it. (There is a protrusion on one end that should be located to the right when the pad is being installed.)

— Oil on the Cleaning Pad —

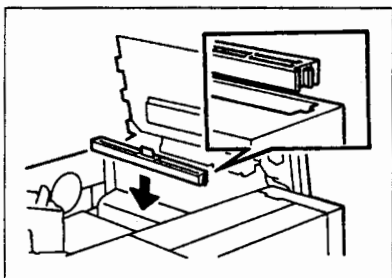
The oil found on the surface of the cleaning pad is for cleaning the fusing roller, and is harmless to humans.



1. Open the universal tray (manual feed).



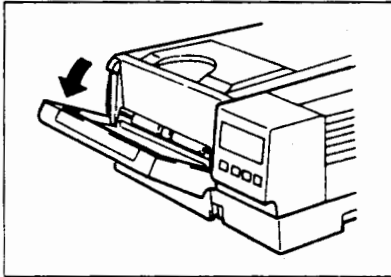
2. Open the upper unit of the printer completely to position 2.



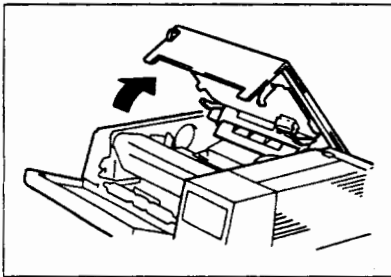
3. Remove the cleaning pad from the protective plastic bag, and install as shown in the illustration.

Installing the Imaging Cartridge

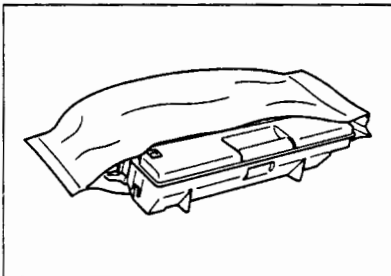
Follow the instructions provided below to install the imaging cartridge in the PrintPartner 10/10W.



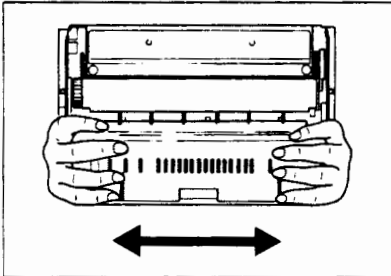
1. Open the universal tray (manual feed).



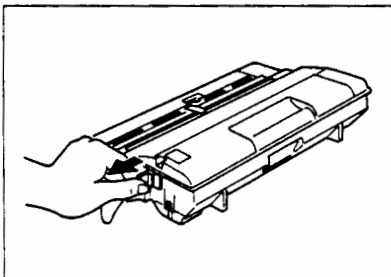
2. Open the printer to position 1.



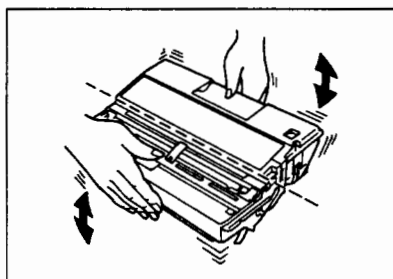
3. Remove the imaging cartridge from its protective bag.



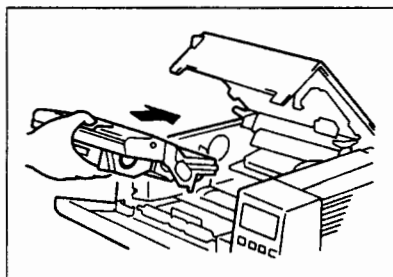
4. Hold the cartridge as shown, and shake it from side to side to distribute the toner inside.



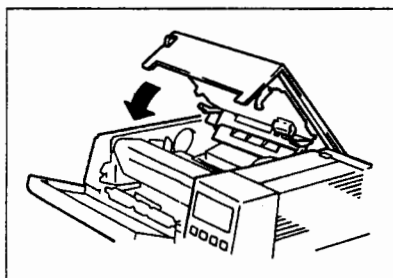
5. Grasp the tag at the side of the cartridge and gently pull it straight out to peel off the toner seal. Be sure to pull the tape all the way out of the cartridge.



6. After removing the toner seal, rock the cartridge again four or five times to keep the toner inside evenly distributed.



7. Slide the imaging cartridge along the guide rails inside the upper unit of the printer.



8. Close the upper unit, and return the universal tray (manual feed).

Loading Paper

The PrintPartner 10/10W laser printer provides two standard means of supplying paper to the printer. Paper may be fed into the unit automatically from the paper cassette, or from the universal tray situated above the paper cassette. The second paper cassette unit (SPCU) provides an additional way to feed paper into the printer automatically. The use of this optional cassette is described in the *Options* section of this chapter.

The PrintPartner 10/10W is capable of printing on standard paper* between 60 - 90 g/m² (16-24 lbs). You can use the paper cassette to feed the following paper sizes either automatically or through the universal tray: A4, B5, Letter, or Executive. (Both A4 and Letter sizes can be fed from the standard cassette. Cassettes for feeding B5 and Executive sizes are optional.)

You can also use the PrintPartner 10/10W to print on special types of paper and envelopes. These include thick paper 90 - 157 g/m² (24-41 lbs), letterhead paper, OHP transparencies, labels, and envelopes. To produce the best quality of print, use the universal tray for these special paper types. In addition, the optional face up tray (FUT) should be installed at the rear of the printer to permit face up output of these documents. The face up tray (FUT) is described in the *Options* section of this chapter.

If you are printing on a special type of paper, be sure to indicate (via your personal computer) the exact area on the page to be used for printing. There may be some variation in the quality of printing obtained when using types of paper outside the normal limits of the specifications. Since the paper quality of envelopes varies, you should make print samples on various envelopes before purchasing any in quantity.

* Standard paper is defined as standard data processing quality paper, XEROX 4024DP, or compatible.

— *Printing on envelopes* —

A maximum of five envelopes can be fed automatically during a single operation. The following envelope sizes may be fed from the universal tray either manually or automatically: Commercial 10, Monarch, DL, and C5.

The following points should be considered before printing on envelopes.

- Use envelopes that come with standard gummed sealing. Envelopes that come with self adhesive sealing should not be used.
- Use envelopes that come with flaps that run the length of the envelope. Envelopes that are sealed at one end cannot be fed properly through the printer.
- Do not use envelopes that include a plastic window or similar synthetic material. These materials can cause the printer serious damage.
- Be sure the envelopes have sharply creased edges and flaps that have been folded correctly, with no irregularities.
- Do not use envelopes that are wrinkled or that use clasps or other fasteners that could damage the printer.

Loading the Paper Cassette

The paper cassette supplies the printer with paper. Individual paper cassettes are available for each paper size. Supported paper types and sizes are described in the preceding section.

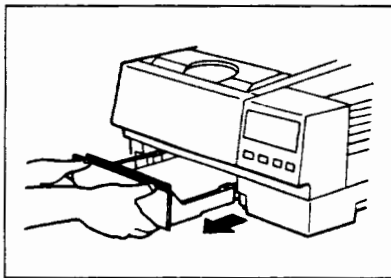
Follow the instructions below to load the paper cassette with paper.

— Keep the universal tray closed —

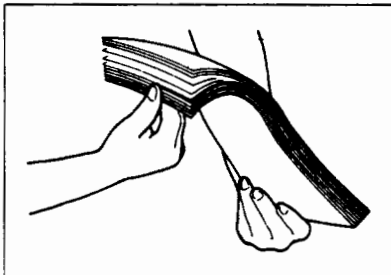
The paper cassette cannot be removed from the printer if the universal tray is open.

— Load the proper amount of paper —

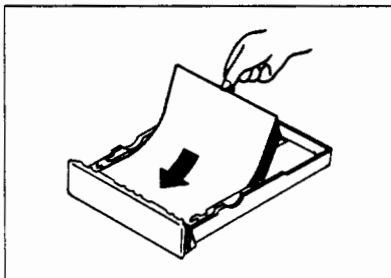
Do not load more than 250 sheets of paper at a time.



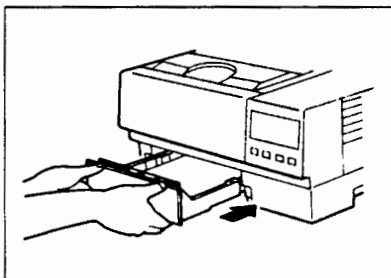
1. Pull out the paper cassette, and remove it completely from the printer.



2. Fan the paper as shown. Then align the edges of the paper stack.



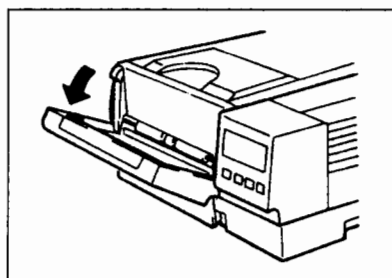
3. Load the paper so that the edge of the stack comes against the front side of the paper cassette.



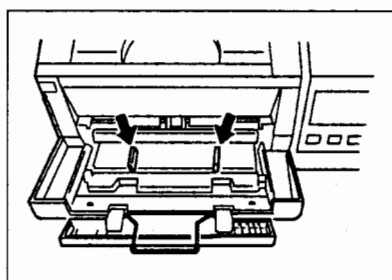
4. Return the paper cassette to its position in the printer.

Loading the Universal Tray

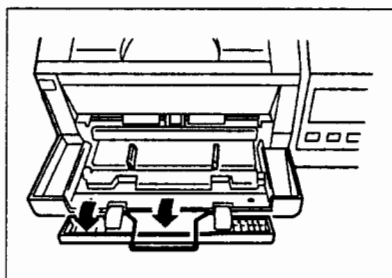
Follow the instructions below to load paper in the universal tray.



1. Open the universal tray (manual feed).



2. Position the paper feed guides according to the paper size being used. Then place the paper in the universal tray.



— When using large paper sizes —

If you are inserting large paper (such as legal size paper), you can lengthen the universal tray by opening the auxiliary paper tray and the tray supporting prop.

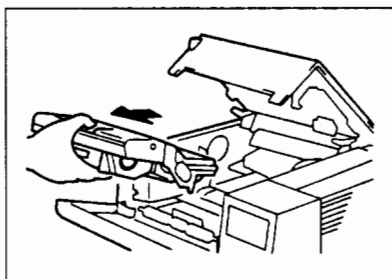
Options

The optional items for the PrintPartner 10/10W include the second paper cassette unit (SPCU), the face up tray (FUT), and 1MB/4MB SIMM Memory. In addition, a paper supporting prop is available for the paper exit tray. Information about these options is provided in the pages that follow.

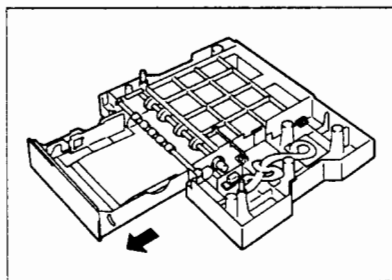
Installing the SPCU

You can use the second paper cassette unit to load extra paper in the PrintPartner 10/10W. Up to 250 additional sheets of A4, letter, B5, or executive paper sizes can be loaded in the SPCU, which is a universal-type paper cassette. Instructions on unpacking this optional cassette unit are provided with the unit.

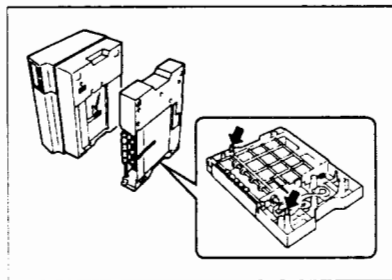
Unpack the SPCU, and remove the six screws used to hold the unit together when shipping. Be sure to work on a flat, stable surface when fitting the printer on the SPCU. Follow the instructions below to install the second paper cassette unit.



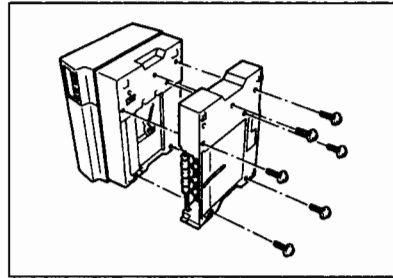
1. Remove the imaging cartridge from the printer.



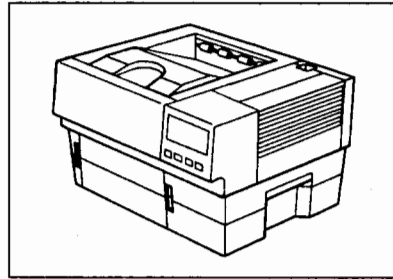
2. Remove the cassette from the SPCU.



3. Carefully stand the printer on its left side. Then set the printer on the SPCU so that the two positioning posts of the SPCU fit into the holes on the bottom of the printer.



4. Use the six screws that come with the SPCU to secure the printer in position.

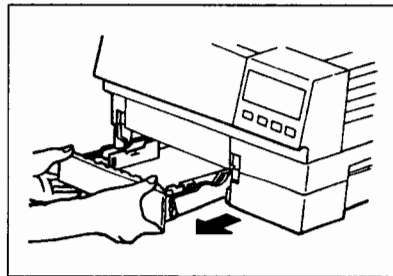


5. After installing the SPCU, return the printer to position for printing operations.

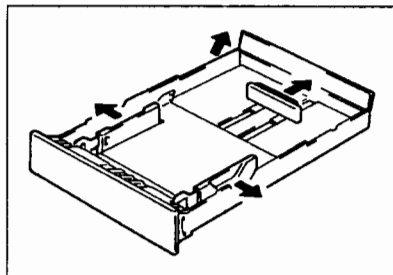
Loading the SPCU

You can use the universal cassette in the second paper cassette unit to load various paper sizes into the printer.

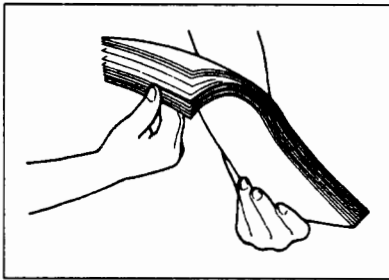
Follow the instructions below to load the second paper cassette unit with paper.



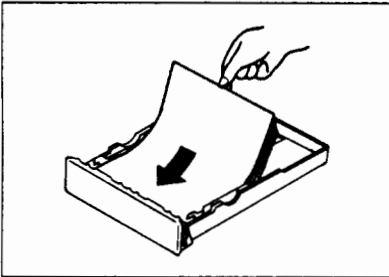
1. Pull out the universal paper cassette, and remove it completely from the printer.



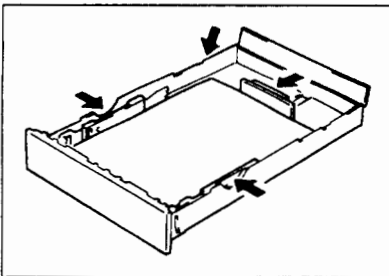
2. Slide open the right, left, and rear paper guide plates located inside the cassette.



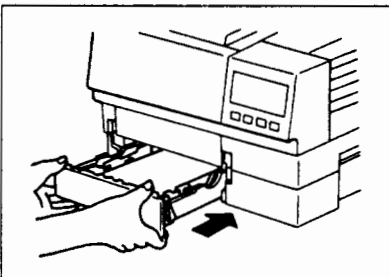
3. Fan the paper as shown, and align the edges of the paper stack.



4. Load the paper so that the edge of the stack comes against the front side of the universal paper cassette.



5. Slide the right, left, and rear guide plates so they touch the stack of paper.



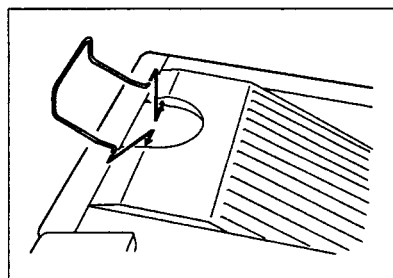
6. Return the paper cassette to its position in the printer. Do not insert the paper cassette at an angle. Load it straight into position.

— Load the proper amount of paper —

Do not load more than 250 sheets of paper at a time. The stack of paper should be no higher than the mark shown inside the cassette unit.

Installing the Paper Exit Supporting Prop

Follow the instructions below to install the paper exit supporting prop (packed with the optional legal-paper cassette) when you want to use the legal-paper cassette.

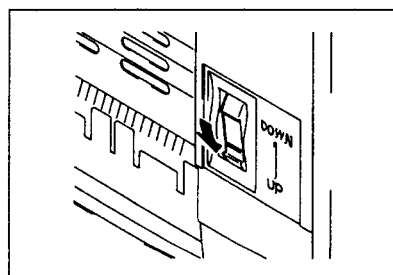


1. Insert the prongs of the prop into the holes located near the top of the face down tray.

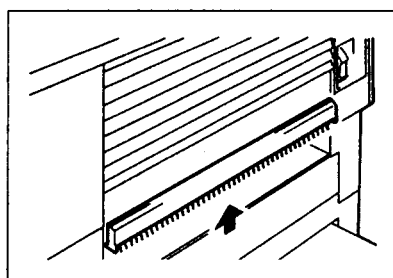
Installing the FUT

You can use the face up tray to output printed documents face up at the rear side of the PrintPartner 10/10W. You must install this tray if you intend to print on envelopes, thick paper, or special types of paper.

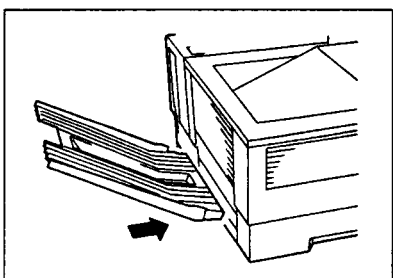
Follow the instructions below to install the face up exit brush and the face up tray.



1. Press the paper exit mode switch located at the rear of the unit to select UP for face up paper output.



2. Install the face up exit brush by pushing it up into the paper exit port.



3. Insert the face up tray in the exit port at the rear of the printer, hanging it on the hooks provided at either side inside the port.

— Changing the paper path —

Use the paper exit mode switch located at the rear of the printer to select DOWN for standard face down output, or UP for face up output to the face up tray.

Optional* TrueImage Board and Optional Memory (1MB/4MB SIMM Memory)

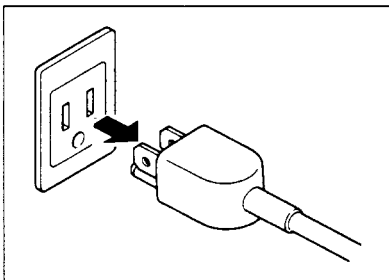
Before opening the option package or handling the optional board, briefly touch the metal part of the printer to remove any electrostatic charge from your body.

After removing the board, be sure to place it on an electric conductive mat or a piece of aluminum foil.

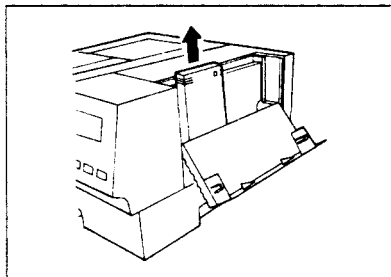
The 1 MB memory that comes standard with the PrintPartner 10 (2 MB comes standard in the PrintPartner 10W) can be upgraded to a maximum of 9 MB. Contact your PrintPartner 10/10W dealer for details about purchasing additional memory. You must have a minimum of 2 MB of memory to install the TrueImage board.

Installing TrueImage Board and Optional Memory

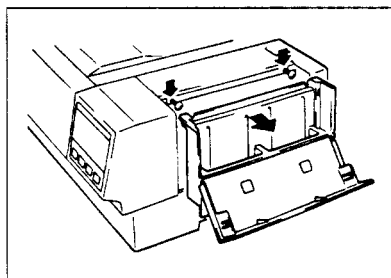
Before installing the optional memory, run a printing test. Then, check the test print for information on the built-in ROM capacity (the value shown for RAM size). Be sure to install only optional Minolta products.



1. Turn OFF the Power ON/OFF switch, and unplug the power cord from the power supply.

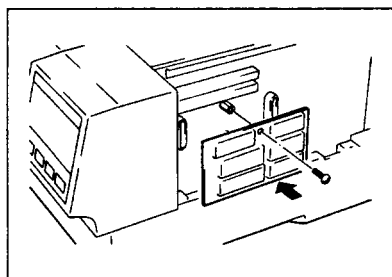


2. If you are using a font cartridge, open the slot cover and remove the cartridge.

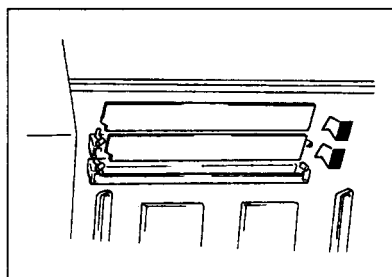


3. Remove the two screws, and take off the slot unit.

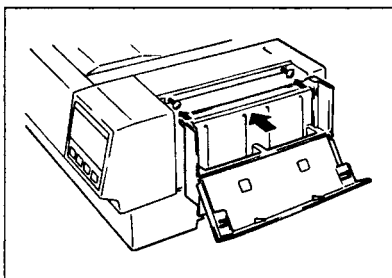
* TrueImage comes standard with the PrintPartner 10W and is an option for the PrintPartner 10.



- 4 Install the optional TrueImage board at the position shown in the illustration. Use a screw to secure the board in place at the center position.



- 5 Be careful not to damage the SIMM memory hardware. Install the memory at the upper position as shown in the illustration. If you are installing two SIMM memory boards at one time, be sure to install them from the upper position.



- 6 Return the slot unit to position, and tighten it with the two screws that are provided. Plug in the power cord and turn ON the power ON/OFF switch.

— *Checking after installation* —

- Check the operation panel to be sure the TrueImage option comes up on the menu. If you cannot select this option, repeat the procedure above and check to be sure that the optional TrueImage board is installed correctly.
- Run another printing test, and check to see if the value shown for the RAM size has increased. If this value has not increased, repeat the procedure above and check to be sure that the SIMM memory is installed correctly.

Making Connections

Connecting the Power Supply

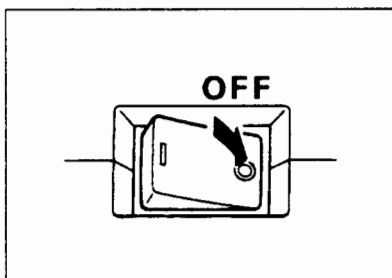
Find the power socket (located on the rear side of the printer) for inserting the power plug from the power supply. Follow the steps below to connect the printer to the power supply.

— Power supply considerations —

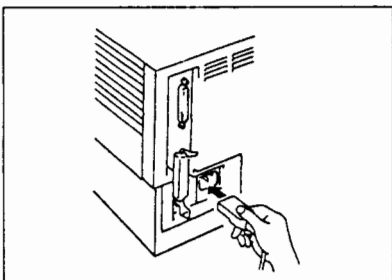
- Do not insert the power cord into a power supply via an extension cord that supplies electricity to more than one unit.
- Do not connect the printer to a power supply used for other equipment or appliances. Large equipment connected to the same outlet could create a drop or surge in the electrical supply, resulting in operational problems for the printer.

— Grounding —

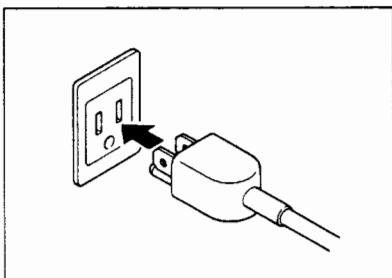
The PrintPartner 10/10W must be properly grounded for safety reasons and to ensure proper operation of the printer. Be sure to ground the printer in accordance with the regulations that apply in your area.



1. Check to be sure the power ON/OFF switch has been turned OFF.



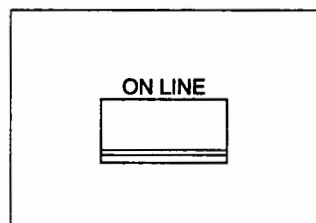
2. Insert the female plug of the power cord into the power socket on the PrintPartner 10/10W.



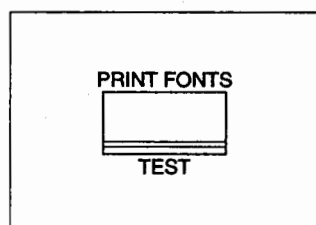
3. Connect the other end of the power cord to the power supply.

Running a Print Test

To verify the operation of the PrintPartner 10/10W before making any computer connections, follow the steps below to run a print test.

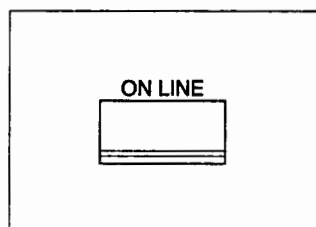


1. Press the ON LINE key to set the printer off-line.



2. Press the TEST key continuously. The screen on the LCD changes as shown below.

03 PRINT TEST



3. Press ON LINE to return the printer to on-line status.

— If the print test is not run properly —

If the print test does not run or if the results are not as expected, refer to the chapter Troubleshooting for more information. Test print samples are shown on the next page.

— Printing a font list —

Set the printer off-line, and press the PRINT FONTS key briefly. The font list will be printed out. Font list samples are shown on 2-26.

<PRINTER ENVIRONMENT>

Total Count: Indicates the total number of pages that have been printed.

RAM Size: Indicates the total RAM size of the controller.

User RAM Size: Indicates the amount of RAM available in the controller for downloading fonts and so on.

Unused MEM Size: Indicates the amount of RAM available that remains unused.

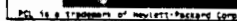
Font Cartridge: Indicates which font cartridge slot is currently being used.

Upper Cassette: Indicates the paper size being used in the standard paper cassette.

Lower Cassette: Indicates the paper size being used in the second paper cassette (SPCU).

<HPLJ3 PRINT MENU> Shows the current print menu settings.

<HPLJ3 CONFIG MENU> Shows the current configuration menu settings.



A sample TrueImage test print is shown below.

TEST PAGE	
TRUEIMAGE PRINT MENU COPIES = 1 CASSETTE = BOTH UPPER, LOWER PAPER = LETTER MANUAL FEED = OFF, ON	
TRUEIMAGE CONFIG MENU EMU = HP, LJ, TRUEIMAGE, IBM, EPSON EMU SWITCH = ON, OFF AUTO CONT = ON, OFF VO = AUTO, PARALLEL, SERIAL, APPLE TALK WAIT = 500, 1000, 1500, 2000, 2500, 3000, INFINITE SERIAL = 2500, 3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500, 7000, 7500, 8000, 8500, 9000, 9500, 10000 BAUD RATE = 1200, 2400, 4800, 9600, 19200 HAND SHK = 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 DTR POLARITY = 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 DATA STOP = 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 PARTY = NONE, EVEN, ODD START PAGE = OFF, ON JAM RECOVER = OFF, ON PINE ART = OFF, DARK, MEDIUM, LIGHT PRINT PREV. = OFF, ON RETENTION = OFF, ON IMG REVERSE = OFF, ON X SHIFT = 0 PT. Y SHIFT = 0 PT. PRT T. ERR = OFF, ON LANGUAGE = ENGL, GERM, FREN, ITAL, SPAN	
PRINTER ENVIRONMENT VERSION: 1.1 SOFTWARE REVISION: 1.08 TOTAL COUNT: 479 RAM SIZE: 2048 KB MAX VM SIZE: 977 KB UNUSED VM SIZE: 255 KB UPPER CASSETTE: A4 LOWER CASSETTE: LETTER	TRUEIMAGE STATUS WAIT TIMEOUT: 30 MANUAL FEED TIMEOUT: 60 JOB TIMEOUT: 0 TOP MARGIN: 0 LEFT MARGIN: 0 #COPIES: 1 MANUAL FEED: none

<TRUEIMAGE PRINT MENU> Shows the current print menu settings.

<TRUEIMAGE CONFIG MENU> Shows the current configuration menu settings.

<TRUEIMAGE PRINTER ENVIRONMENT>

VERSION: Indicates which version of TrueImage from Microsoft has been used.
 SOFTWARE REVISION: Indicates which revision of the emulation program has been installed in the PrintPartner 10/10W.
 TOTAL COUNT: Indicates the total number of pages that have been printed.
 RAM SIZE: Indicates the total RAM size of the controller.
 MAX VM SIZE: Indicates the maximum amount of RAM in the controller that can be used for virtual memory.
 UNUSED VM SIZE: Indicates the amount of RAM available for virtual memory that remains unused.
 CASSETTE: Indicates the paper size being used in the standard paper cassette.

<TRUEIMAGE STATUS>

WAIT TIMEOUT: Indicates the timeout setting used if no instructions come from the host computer following the end of a job.
 MANUAL FEED TIMEOUT: Indicates the timeout setting used following a print command if no paper has been loaded in the universal tray when manual feeding has been selected.
 JOB TIMEOUT: Indicates the timeout setting used if the controller takes too long to carry out image processing.
 TOP MARGIN: Indicates the top margin setting to be used according to instructions from the host computer.
 LEFT MARGIN: Indicates the left margin setting to be used according to instructions from the host computer.
 #copies: Indicates the number of copies to be made. This is set according to instructions received from the host computer.
 MANUAL FEED: Indicates whether or not manual feeding is to be used. This is set according to instructions received from the host computer.

Font #	Font ID	Symbol Set	File /PS	Pitch (cpi)	Point Size	Style	Stroke weight	Name or Typeface	Default Orient	Print Sample & Escape Sequence
"PERMANENT" NOT FONTS										
FONT CARTRIDGE 1										
FONT CARTRIDGE 2										
INTERNAL FONTS										
1000	ROMAN-B	F	10 00	12 0	Upright	Medium	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{} ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T
1001	ROMAN-B	F	16 67	8 5	Upright	Medium	Line Printer		Port	ABCDEfghi;AA^CN;E50#S0[]~{} ^Esc(BM^Esc(a0p16.67n8.5v0a0n3T
1002	ROMAN-B	F	12 00	10 0	Upright	Medium	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T
1003	ROMAN-B	F	12 00	10 0	Upright	Bold	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T
1004	ROMAN-B	F	12 00	10 0	Italic	Medium	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T
1005	ROMAN-B	F	10 00	12 0	Upright	Bold	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{} ^Esc(BM^Esc(a0p10.00n12.0v0a0n3T
1006	ROMAN-B	F	10 00	12 0	Italic	Medium	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{} ^Esc(BM^Esc(a0p10.00n12.0v0a0n3T
1010	ROMAN-B	P			Scale Upright	Medium	CG Times		Port	abcdefghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p~v0a0n4n10T
1011	ROMAN-B	P			Scale Upright	Bold	CG Times	Bd	Port	abcdefghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p~v0a0n4n10T
1012	ROMAN-B	P			Scale Italic	Medium	CG Times	It	Port	abcdefghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p~v0a0n4n10T
1013	ROMAN-B	P			Scale Italic	Bold	CG Times	Bd It	Port	abcdefghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p~v0a0n4n10T
1014	ROMAN-B	P			Scale Upright	Medium	Univers	Nd	Port	abcdefghi;AA^CN;E50#S0[]~{}-12 ^Esc(BM^Esc(a0p~v0a0n4n10T
1015	ROMAN-B	P			Scale Upright	Bold	Univers	Bd	Port	abcdefghi;AA^CN;E50#S0[]~{}-12 ^Esc(BM^Esc(a0p~v0a0n4n10T
1016	ROMAN-B	P			Scale Italic	Medium	Univers	Nd It	Port	abcdefghi;AA^CN;E50#S0[]~{}-12 ^Esc(BM^Esc(a0p~v0a0n4n10T
1017	ROMAN-B	P			Scale Italic	Bold	Univers	Bd It	Port	abcdefghi;AA^CN;E50#S0[]~{}-12 ^Esc(BM^Esc(a0p~v0a0n4n10T
1018	ECRN-94	F	16 67	8 5	Upright	Medium	Line Printer		Port	ABCDEfghi;AA^CN;E50#S0[]~{} ^Esc(BM^Esc(a0p16.67n8.5v0a0n3T
1019	ECRN-94	F	12 00	10 0	Upright	Medium	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T
1020	ECRN-94	F	12 00	10 0	Upright	Bold	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T
1021	ECRN-94	F	12 00	10 0	Italic	Medium	Counter		Port	ABCDEfghi;AA^CN;E50#S0[]~{}-123 ^Esc(BM^Esc(a0p12.00n10.0v0a0n3T

Font #:

Is the number used to select an internal, cartridge, or downloaded soft fonts from the operation panel. (Be sure not to confuse the *font number* and the *font ID*, which is described below.)

The letter that precedes the font number shows the source of the font.

S = Permanent soft font, residing in the printer memory

1 = Fonts from font cartridge slot 1

2 = Fonts from font cartridge slot 2

I = Internal printer fonts

Font ID:

Is an ID number that is assigned to soft fonts when using software to download them.

Symbol Set:

Indicates the name of a character set.

Fix/PS:

Indicates whether monospacing (F) or proportional spacing (P) is used for a font.

Pitch (cpi):

Indicates the pitch used for the font.

Point Size:

Indicates the point size used for the font.

Style indicates:

The appearance and posture of the font.

Stroke Weight:

Indicates the thickness of the stroke used to make the font.

Name or Typeface:

Is the name of the font or the typeface.

Default Orient:

Indicates the orientation that is used: portrait or landscape.

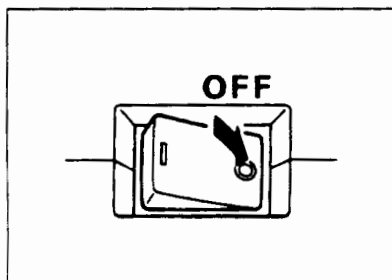
Print Sample & Escape Sequence: Contains two lines per entry. The top line is a print sample that shows what the characters look like. The bottom line contains the escape sequence that is used to select the designated font.

Courier	ABCDabcd1234!@#\$
Courier Bold	ABCDabcd1234!@#\$
Courier Bold Oblique	<i>ABCDabcd1234!@#\$</i>
Courier Oblique	<i>ABCDabcd1234!@#\$</i>
Arial	ABCDabcd1234!@#\$
Arial Bold	ABCDabcd1234!@#\$
Arial Bold Oblique	<i>ABCDabcd1234!@#\$</i>
Arial Oblique	<i>ABCDabcd1234!@#\$</i>
Arial Narrow	ABCDabcd1234!@#\$
Arial Narrow Bold	ABCDabcd1234!@#\$
Arial Narrow Bold Oblique	<i>ABCDabcd1234!@#\$</i>
Arial Narrow Oblique	<i>ABCDabcd1234!@#\$</i>
Times New Roman	ABCDabcd1234!@#\$
Times New Roman Bold	ABCDabcd1234!@#\$
Times New Roman Bold Italic	<i>ABCDabcd1234!@#\$</i>
Times New Roman Italic	<i>ABCDabcd1234!@#\$</i>
Symbol	ABX&a&b&x&y&z1234!@#E
Zapf Calligraphic Roman	ABCDabcd1234!@#\$
Zapf Calligraphic Bold	ABCDabcd1234!@#\$
Zapf Calligraphic Bold Italic	<i>ABCDabcd1234!@#\$</i>
Zapf Calligraphic Italic	<i>ABCDabcd1234!@#\$</i>
Century Schoolbook Roman	ABCDabcd1234!@#\$
Century Schoolbook Bold	ABCDabcd1234!@#\$
Century Schoolbook Bold Italic	<i>ABCDabcd1234!@#\$</i>
Century Schoolbook Italic	<i>ABCDabcd1234!@#\$</i>
ITC Avant Garde Gothic Book	ABCDabcd1234!@#\$
ITC Avant Garde Gothic Demi	ABCDabcd1234!@#\$
ITC Avant Garde Gothic Demi Oblique	<i>ABCDabcd1234!@#\$</i>
ITC Avant Garde Gothic Book Oblique	<i>ABCDabcd1234!@#\$</i>
ITC Bookman Light	ABCDabcd1234!@#\$
ITC Bookman Demi	ABCDabcd1234!@#\$
ITC Bookman Demi Italic	<i>ABCDabcd1234!@#\$</i>
ITC Bookman Light Italic	<i>ABCDabcd1234!@#\$</i>
ITC Zapf Chancery Medium Italic	<i>ABCDabcd1234!@#\$</i>
ITC Zapf Dingbats	

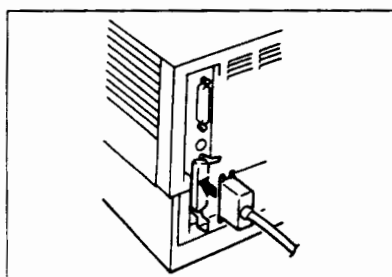
In this list of the 35 fonts available in the PrintPartner 10/10W, the font names in the left column correspond to the samples that appear on the right.

Parallel Interface

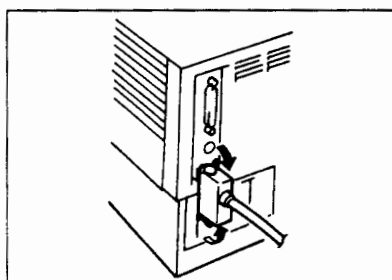
Follow these basic instructions to make a parallel interface connection. The specifications and pin assignments of the parallel interface are provided in the *Appendix* of this manual.



1. Check to be sure the power ON/OFF switch has been turned OFF. Connect the interface cable to the computer using the connector on the rear side of the unit.



2. Insert the plug into the Centronics connector located on the rear side of the printer.



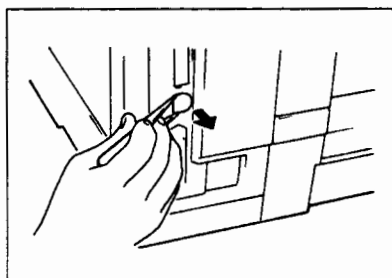
3. Secure the plug by closing the two clips provided.

— Cable length —

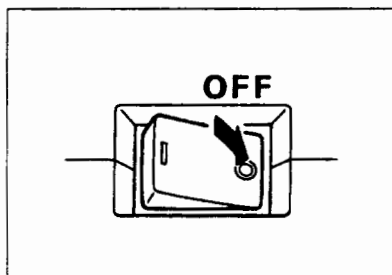
The length of the parallel interface should be kept as short as possible, as the length affects the speed of data transmission. The parallel interface cable should be no more than two meters (seven feet) long.

AppleTalk Interface

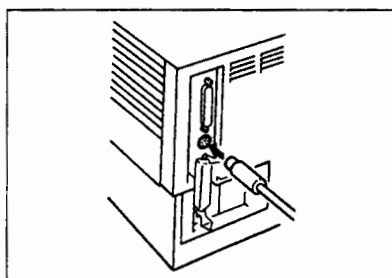
Follow the instructions below to make an AppleTalk interface connection. The specifications and pin assignments for all of the interfaces are provided in the *Appendix* of this manual.



1. Use a pair of needle-nose pliers (or similar tool) to remove the sticker covering the AppleTalk connector.



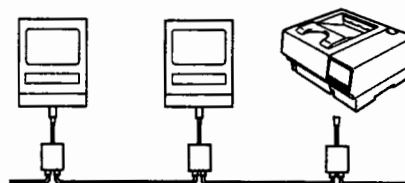
2. Check to be sure the power ON/OFF switch has been turned OFF. Connect the interface cable to the computer using the connector on the rear side of the unit.



3. Insert the plug into the AppleTalk connector located on the rear side of the printer.

— The interface cable —

One of two cable types, either a DIN-8 pin or a LocalTalk cable, must be used when making an AppleTalk interface connection.



— TrueImage only —

The TrueImage emulation is the only emulation that can use the AppleTalk interface port. When using TrueImage emulation, it is necessary to install the TrueImage option. When any emulation other than TrueImage has been selected, either the serial or parallel interface must be used.

Chapter **3**

Basic Operations

In this chapter

This chapter provides the following information related to the basic operations of the PrintPartner 10/10W.

	Page
Turning on the printer	3-2
Emulations	3-3
Fonts.....	3-4
Scalable fonts	3-4
Bitmap fonts	3-4
Soft fonts and cartridge fonts	3-5
Installing a Font Cartridge	3-6
TrueType and PostScript names	3-7
Operation Menus	3-8

Turning On the Printer

Use the power ON/OFF switch on the top of the printer to turn the power on. After the power is on, the Operation Panel registers several changes while the machine is warming up.

All of the indicators come on while the printer runs a self-test. Once this test is completed, the warming up period is indicated by the flashing READY indicator. Finally, the ON LINE indicator comes on to show that the printer is ready to use.

If the PrintPartner 10/10W has not powered up as expected, make sure the various power supply connections are secure.

Emulations

The PrintPartner 10/10W provides emulations of four different printing technologies. Some of these emulations offer printing capability for printers that have been standards for a number of years, such as the IBM ProPrinter XL-24e and the Epson FX-850.

Other PrintPartner 10/10W emulations are among the most advanced technologies currently available. HPLJ3 is an emulation of the most recent printing software package from Hewlett-Packard: the LaserJet III. HPLJ3 uses Intellifont scalable typefaces and fully supports the vector graphics available in HPGL/2. LaserJet III-type printers are rapidly becoming an industry standard.

TrueImage emulation is available by installing the optional board, TrueImage, from Microsoft. TrueImage (TI) employs a PostScript-style approach to printing and incorporates PostScript as a major part of its software design. Although the names differ, TrueType fonts are compatible with the 35 standard PostScript fonts. (A list comparing these names is provided later in this chapter.) Although they are similar, TrueType fonts offer font designers an alternative to the PostScript system of font management.

Fonts

Fonts are a specific group of characters that share characteristics of shape and size.

A wide range of font sizes and styles are available in the printer's built-in memory. These are referred to as resident fonts. Two font types – scalable fonts and bitmap fonts – are used on the PrintPartner 10/10W. These font types are described below.

In addition to the resident fonts maintained in the printer's memory, additional fonts can be accessed from a variety of sources. These extra selections include soft fonts and cartridge fonts.

Scalable fonts

Scalable fonts (sometimes referred to as outline fonts) have the ability to be enlarged or shrunk to any size, according to the needs of the situation. There are few limitations on the size that can be selected for these fonts.

The resident fonts maintained in the PrintPartner 10/10W memory include 35 TrueType fonts (for TrueImage) and 8 Intellifont typefaces (for HPLJ3). TrueType fonts are equivalent to the standard PostScript fonts. A table on page 3-7 shows a comparison of the names used for these fonts. This wide range of scalable fonts can be supplemented by using soft fonts or cartridge fonts. A complete list of font samples is provided in *Chapter 9*.

Bitmap fonts

A bitmap font is stored in memory as a set of characters and symbols with a specific size and unique design. This means a bitmap font does not have the flexibility to be scaled, because each bit of the font is mapped out specifically.

There are 14 bitmap fonts (for HPLJ3) resident in the internal memory of the PrintPartner 10/10W. Additional bitmap fonts can be accessed by using soft fonts or a font cartridge. A complete list of font samples is provided in *Chapter 9*. If you use too many fonts, however, you may run out of printer memory. You should limit the number of accessed bitmap fonts you use at a given time.

Soft fonts and cartridge fonts

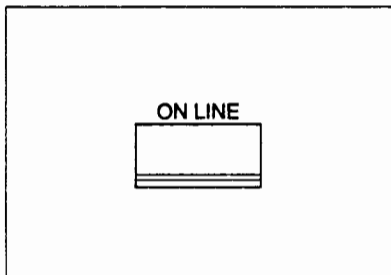
Soft fonts must be downloaded from a floppy disk for use by the PrintPartner 10/10W. You can use cartridge fonts by inserting a font cartridge in one of the slots provided on the side of the printer. The cartridge font functions more efficiently than a soft font because no time is required for downloading the font into memory. The next page provides a description of how to use cartridge fonts.

— *Downloading considerations* —

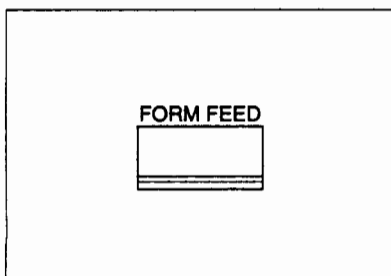
- Every time you turn the printer off, all fonts that were downloaded are cleared from the printer's memory. You must download the fonts again the next time the printer is turned on.
- Downloaded fonts require a great deal of printer memory. As much as possible, download only the fonts required for your printing needs at any given time. If you find that you are using many different downloaded fonts, you may want to install additional printer memory.

Installing a Font Cartridge

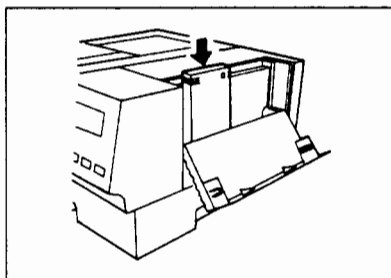
Follow the instructions below to install a font cartridge in the PrintPartner 10/10W.



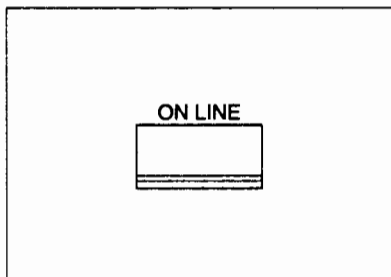
1. Press ON LINE to set the printer off-line.



2. Make sure the FORM FEED indicator is off. (If this indicator is on, be sure the printer is no longer receiving data, then press the FORM FEED key to print out any data that is left over.)



3. Open the slot cover located on the right side of the printer, and slide the cartridge into either of the slots provided on the PrintPartner 10/10W. You will hear a click as the cartridge fits into place.



4. Press ON LINE to return the printer to on-line status.

— Insert the font cartridge correctly —

Be sure the font cartridge is facing the right direction (with the font name facing outward) when you insert the cartridge.

TrueType and PostScript names

The fully scalable TrueType fonts are equivalent to the widely-used PostScript fonts. The table below shows the different names used for these font management systems.

35 fonts are available for each system. You can download additional soft fonts if you want more variety in the font selection.

TrueType	PostScript
Courier	Courier
Courier Bold	Courier-Bold
Courier Bold Oblique	Courier-BoldOblique
Courier Oblique	Courier-Oblique
Arial	Helvetica
Arial Bold	Helvetica-Bold
Arial Bold Oblique	Helvetica-BoldOblique
Arial Oblique	Helvetica-Oblique
Times New Roman	Times-Roman
Times New Roman Bold	Times-Bold
Times New Roman Bold Italic	Times-BoldItalic
Times New Roman Italic	Times-Italic
Symbol	Symbol
Arial Narrow	Helvetica-Narrow
Arial Narrow Bold	Helvetica-Narrow-Bold
Arial Narrow Bold Oblique	Helvetica-Narrow-BoldOblique
Arial Narrow Oblique	Helvetica-Narrow-Oblique
Zapf Calligraphic Roman	Palatino-Roman
Zapf Calligraphic Bold	Palatino-Bold
Zapf Calligraphic Bold Italic	Palatino-BoldItalic
Zapf Calligraphic Italic	Palatino-Italic
Century Schoolbook Roman	NewCenturySchlbk-Roman
Century Schoolbook Bold	NewCenturySchlbk-Bold
Century Schoolbook Bold Italic	NewCenturySchlbk-BoldItalic
Century Schoolbook Italic	NewCenturySchlbk-Italic
ITC Avant Garde Gothic Book	AvantGarde-Book
ITC Avant Garde Gothic Demi	AvantGarde-Demi
ITC Avant Garde Gothic Demi Oblique	AvantGarde-DemiOblique
ITC Avant Garde Gothic Book Oblique	AvantGarde-BookOblique
ITC Bookman Light	Bookman-Light
ITC Bookman Demi	Bookman-Demi
ITC Bookman Demi Italic	Bookman-DemiItalic
ITC Bookman Light Italic	Bookman-LightItalic
ITC Zapf Chancery Medium Italic	ZapfChancery-MediumItalic
ITC Zapf Dingbats	ZapfDingbats

Operation Menus

Two menus are used to control the PrintPartner 10/10W operation: the Print Menu and the Basic Print Menu. The Print Menu selects settings directly related to the printing process such as the number of copies, the font ID number, pitch, and point size.

The HPLJ3 emulation is the foundation for the basic print menu settings included in the other PrintPartner 10/10W emulations. The TrueImage emulation (optional for the PrintPartner 10) items are included in the Basic Print Menu. Additional print menu items for the Epson and IBM emulations are described in separate sections.

The print menu selections are described in the next chapter, *Menu Selections*. A summary of the print menus for each emulation is provided in the *Appendix*.

The eleven “common menu” items in the basic configuration menu are used to set special operating conditions for the PrintPartner 10/10W. These selections are available for all of the printer’s emulations.

Configuration menu settings used to select parameters for the serial interface are described in the *Appendix*. The items included in the basic configuration menu are explained in the next chapter, *Menu Selections*. Additional menu items for TrueImage and general menu selections are described separately in the same chapter.

— Accessing the menus —

The MENU key accesses both the print menu and the configuration menu. Press the key briefly to enter the print menu cycle. Hold the key down for a couple of seconds to enter the configuration menu cycle.

Chapter **4** --- *Menu Selections*

In this chapter

This chapter provides information related to the menu selections available on the PrintPartner 10/10W.

	Page
Basic Print Menu	4-3
Number of copies	4-4
Font source	4-5
Font number	4-6
Pitch	4-7
Point size	4-8
Paper cassette	4-9
Paper type	4-10
Paper size	4-10
Orientation	4-11
Form length	4-12
Manual feed	4-13
Symbol set	4-14
IBM Print Menu	4-16
Symbol set	4-16
Character set	4-17
AGM	4-18
Epson Print Menu	4-19
Pitch	4-19
Basic Configuration Menu	4-20
Emulation	4-21
Emulation switch	4-22
Automatic continue	4-23
Interface selection	4-24
Fine ART	4-25
Print preview	4-26
Image retention	4-27
Image reverse	4-28
Image shift	4-29
Language	4-30
TowerFeed	4-31
Total print count	4-31

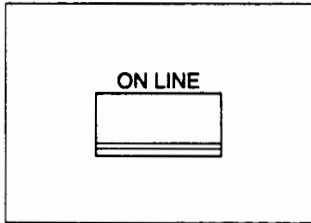
TrueImage* Configuration Menu.....	4-32
Start page.....	4-32
Jam recovery	4-33
Printer error	4-34
Page Buffer.....	4-35
General Configuration Menu.....	4-36
Full bitmap	4-36
Wait time	4-37
Hexadecimal dump	4-38

* TrueImage comes standard with the PrintPartner 10W and is an option for the PrintPartner 10.

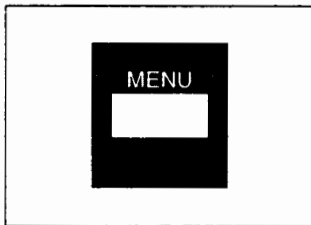
Throughout this chapter, an underlined menu option indicates the default setting for that item.



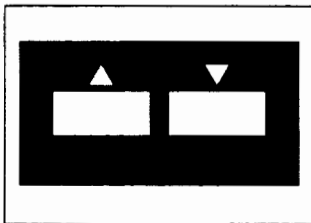
Number of copies Select the number of copies you want to print as described below. The range of copies is 01-99.



1. Press ON LINE to set the printer off-line.

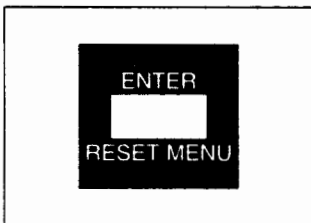


2. Press MENU briefly to access the Print Menu. The COPIES screen appears on the LCD.

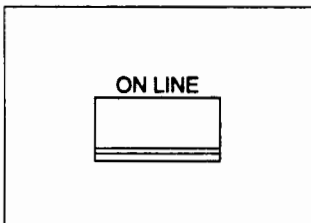


3. Use the cursor keys to select the number of copies you want to print.

COPIES=03 *



4. Press ENTER to register your selection. An asterisk appears next to the option you have selected.

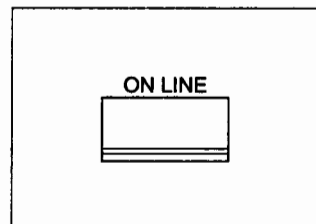


5. Press ON LINE to return the printer to on-line status.

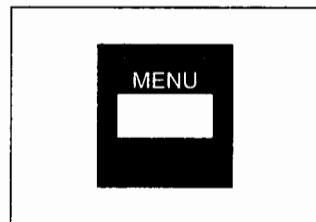
Font source

The PrintPartner 10/10W has three main font sources. The printer's internal memory (I) provides a major source for the fonts you can select. You can use or access additional fonts from Font Cartridges (1, 2). The S setting refers to user-defined scalable fonts (known as soft fonts).

You can select the font source for printing as described below. The following font sources can be selected: I, 1, 2, S.

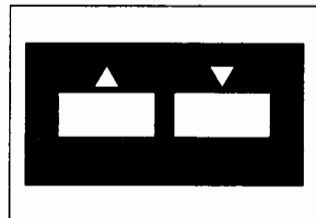


1. Press ON LINE to set the printer off-line.



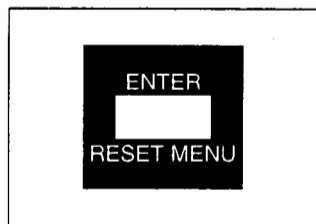
2. Press MENU briefly to access the Print Menu. Then press MENU again until the FONT SOURCE screen appears on the LCD.

FONT SOURCE=I *

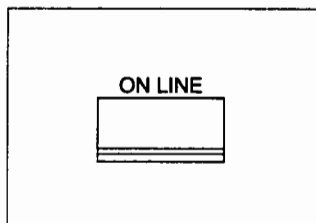


3. Use the cursor keys to select the font source you want to use for printing.

FONT SOURCE=1



4. Press ENTER to register your selection. An asterisk appears next to the option you selected.

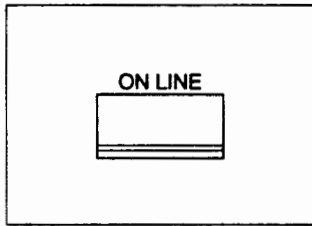


5. Press ON LINE to return the printer to on-line status.

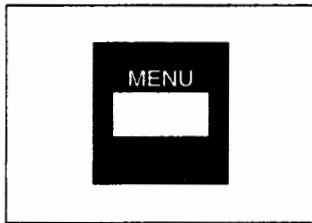
Font number

The default font identification number is taken from the font source specified in the previous operation.

Select the font number as described below. The font number may be 0-999.

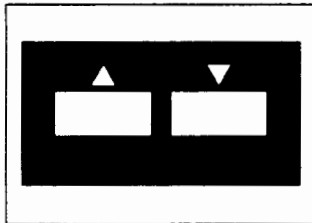


1. Press ON LINE to set the printer off-line.



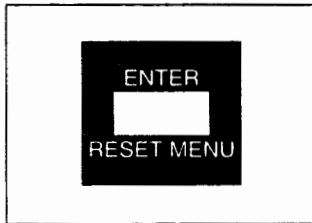
2. Press MENU briefly to access the Print Menu. Then press MENU again until the FONT NUMBER screen appears on the LCD.

FONT NUMBER=0 *

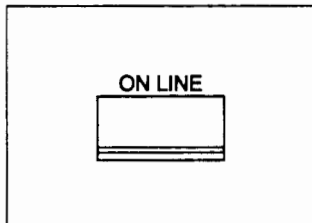


3. Use the cursor keys to select the font ID number you want to use for printing. Select this setting based on the font source that is enabled.

FONT NUMBER=555



4. Press ENTER to register your selection. An asterisk appears next to the option you selected.



5. Press ON LINE to return the printer to on-line status.

Pitch

Used only for mono-spaced characters (which are often used in tables), pitch is the number of characters per inch. The larger the pitch number is, the smaller the size of the character will be. Pica (10 cpi) and elite (12 cpi) pitches are common pitches.

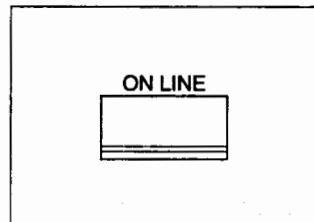
10 characters/inch

12 characters/inch

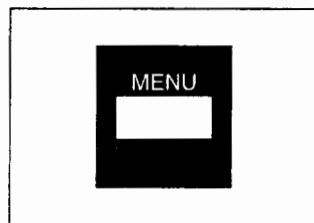
16.66 characters/inch



Select the pitch as described below. This menu item does not appear on the LCD if the default font is not a monospace scalable font. The pitch may be 0.44 - 99.99 (10.00).

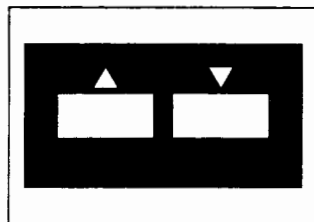


1. Press ON LINE to set the printer off-line.



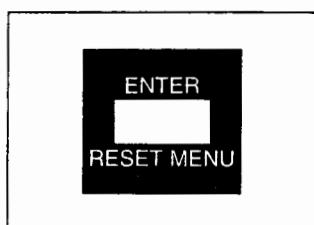
2. Press MENU briefly to access the Print Menu. Then press MENU again until the PITCH screen appears on the LCD.

PITCH=10.00 *

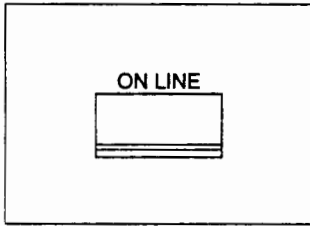


3. Use the cursor keys to select the pitch you want to use for printing.

PITCH=5.75



4. Press ENTER to register your selection. An asterisk appears next to the option you have selected.



5. Press ON LINE to return the printer to on-line status.

Point size

The point size is the height of a character (1 pt. = 1/72 inch). This does not apply to the character width, which can vary according to the character. For example, the letter "M" is wider than "t" or "l."

LASER PRINTER 5 pt.

LASER PRINTER 8 pt.

LASER PRINTER 10 pt.

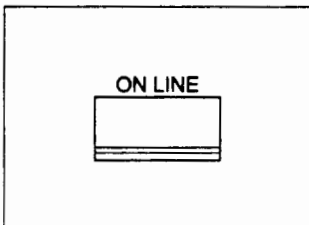
LASER PRINTER 12 pt.

LASER PRINTER 14 pt.

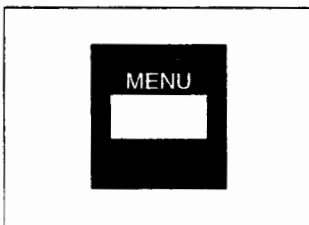
LASER PRINTER 18 pt.

LASER PRINTER 24

Select the point size as described below. This menu item appears on the LCD if the default font is a proportional scalable font. The point size may be 4.00 - 999.75 (12.00).



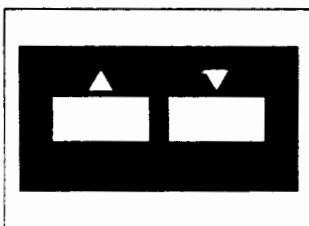
1. Press ON LINE to set the printer off-line.



2. Press MENU briefly to access the Print Menu. Then press MENU again until the POINT screen appears on the LCD.

POINT=12.00

*



3. Use the cursor keys to select the point size you want to use for printing.

POINT=16.67

4. Press ENTER to register your selection. An asterisk appears next to the option you selected.
5. Press ON LINE to return the printer on-line.

Paper cassette

Select the Paper Cassette as described below. This item is given higher priority than the paper size setting, which is described in the next page. If the Second Paper Cassette Unit (SPCU) (LOWER) is not installed, this menu item does not appear on the LCD.

When the SPCU is installed, the following selections are available: **BOTH**, **UPPER**, and **LOWER**. If **UPPER** is selected, only the standard Paper Cassette is used. If **BOTH** is selected, the Standard Paper Cassette is used.

When the TowerFeed is installed and TowerFeed setting in the configuration menu is ON, the following selections are available: **UPPER**, **TF ALL**, and **TF1-7**. If **TF ALL** is selected, one of the tray having the specified paper in the next menu will be used.

1. Press ON LINE to set the printer off-line.
2. Press MENU briefly to access the Print Menu. Then press MENU again until the CASSETTE screen appears on the LCD.

CASSETTE=BOTH*

3. Use the cursor keys to select the Paper Cassette you want to use for printing.

CASSETTE=UPPER

4. Press ENTER to register your selection. An asterisk appears next to the option you have selected.
5. Press ON LINE to return the printer to on-line status.

-- TowerFeed installation --

The TowerFeed can be usable with the PrintPartner 10. Refer to the manual of the TowerFeed for the details.

Paper type

Select the paper type to be fed from the TowerFeed as described below. This menu item appears only when the paper cassette setting in the previous page is TF ALL.

The paper type may be set Q-7.

1. Press ON LINE to set the printer off-line.
2. Press MENU briefly to access the Print Menu. Then press MENU again until the PAPER TYPE screen appears on the LCD.

PAPER TYPE=0 *

3. Use the cursor keys to select the paper type you want to use for printing and press ENTER to register your selection. An asterisk will appear next to the option you have selected.
4. Press ON LINE to return the printer to on-line status.

Paper size

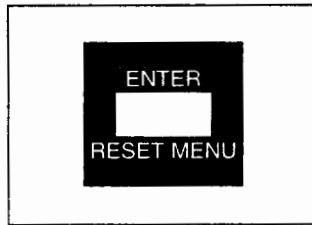
Select the paper size as described below. The following paper sizes are available: **LETTER**, LEGAL, A4, B5, and EXEC (Executive). The following envelope sizes are also available: COM-10, MONARCH, DL, and C5.

1. Press ON LINE to set the printer off-line.
2. Press MENU briefly to access the Print Menu. Then press MENU again until the PAPER screen appears on the LCD.

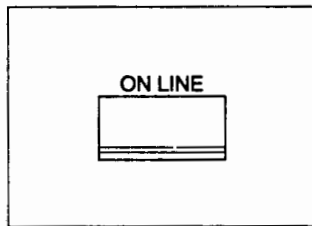
PAPER=LETTER *

3. Use the cursor keys to select the paper (or envelope) size you want to use for printing.

PAPER=LEGAL



4. Press ENTER to register your selection. An asterisk appears next to the option you have selected.

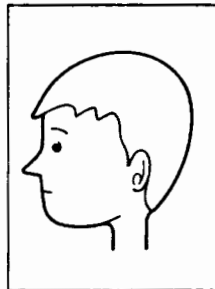


5. Press ON LINE to return the printer to on-line status.

Orientation

Orientation is the direction used to print on a page and can be either Portrait or Landscape. Portrait prints across the width of the page. Landscape prints the length of the page.

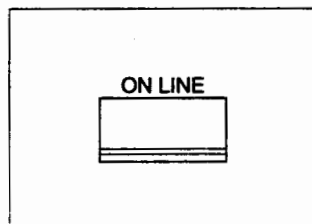
Portrait



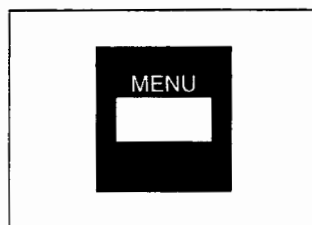
Landscape



Select the page orientation as described below. The orientations available are Portrait (P) and Landscape (L).

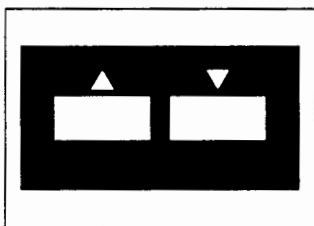


1. Press ON LINE to set the printer off-line.



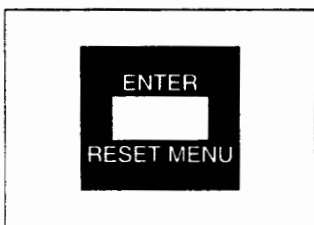
2. Press MENU briefly to access the Print Menu. Then press MENU again until the ORIENTATION screen appears on the LCD.

ORIENTATION=P *

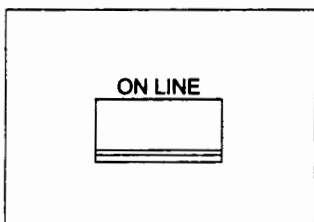


3. Use the cursor keys to select the orientation you want to use for printing.

ORIENTATION=L



4. Press ENTER to register your selection. An asterisk appears next to the option you selected.

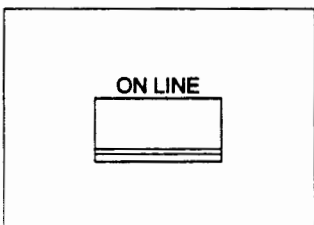


5. Press ON LINE to return the printer to on-line.

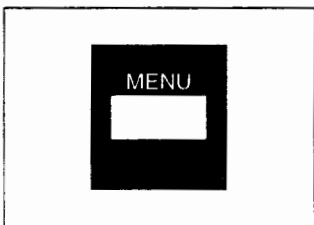
Form length

Form length is the number of printed lines that appear on the page.

Select the form length as described below. The form length may be 5 - 128 (60 for Letter size, 64 for A4 size).

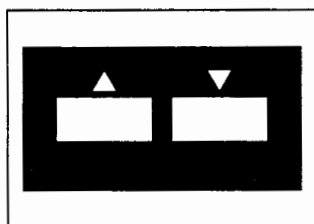


1. Press ON LINE to set the printer off-line.



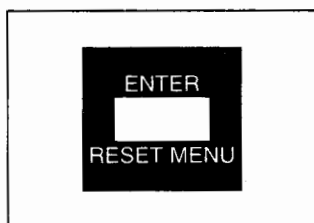
2. Press MENU briefly to access the Print Menu. Then press MENU again until the FORM LENGTH screen appears on the LCD.

FORM LENGTH=60 *

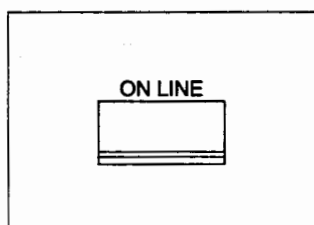


3. Use the cursor keys to select the form length you want to use for printing.

FORM LENGTH=65



4. Press ENTER to register your selection. An asterisk appears next to the option you selected.

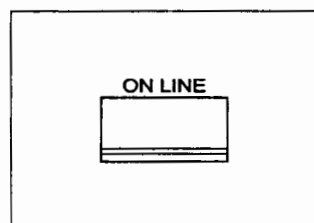


5. Press ON LINE to return the printer to on-line status.

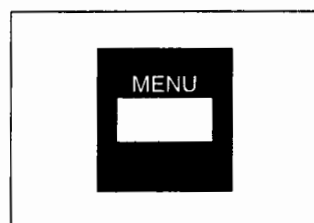
Manual feed

Select manual paper feeding as described below. This default setting is OFF.

You can feed paper from the Paper Cassette even after manual feeding is selected. To do this, press the CONTINUE key.

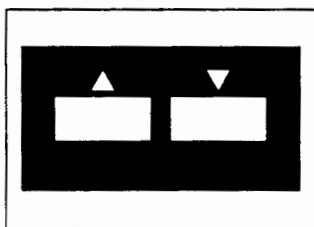


1. Press ON LINE to set the printer off-line.



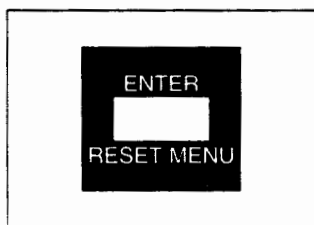
2. Press MENU briefly to access the Print Menu. Then press MENU again until the MANUAL FEED screen appears on the LCD.

MANUAL FEED=OFF *

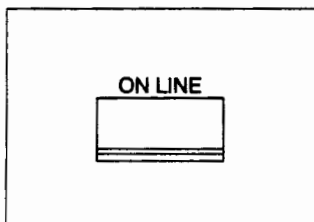


- Use the cursor keys to select whether or not to use manual paper feeding.

MANUAL FEED=ON



- Press ENTER to register your selection. An asterisk appears next to the option you selected.

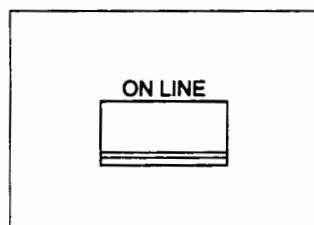


- Press ON LINE to return the printer to on-line.

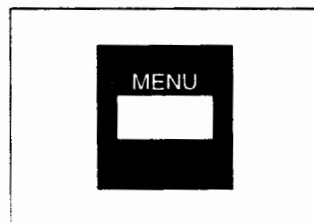
Symbol set

A symbol set is a group of characters that usually includes upper- and lower-case letters, numerals, punctuation marks, and other useful characters. The symbols that make up these sets share general characteristics with regard to size and shape. (Refer to the chapter *Character and Symbol Sets* for a summary of the symbol sets.)

Select the symbol set as described below. The symbol sets available for HPLJ3 are listed below. The default symbol set is ROMAN-8.

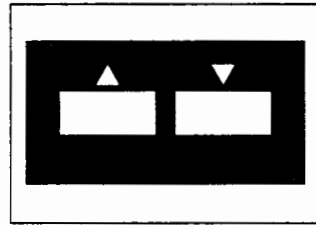


- Press ON LINE to set the printer off-line.



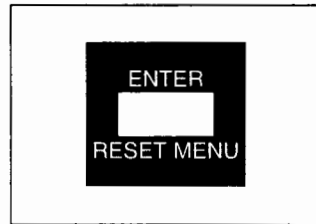
- Press MENU briefly to access the Print Menu. Then press MENU again until the SYM SET screen appears on the LCD.

SYM SET=ROMAN-8 *

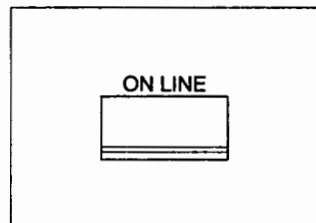


3. Use the cursor keys to select the symbol set you want to use when printing.

SYM SET=PC8



4. Press ENTER to register your selection. An asterisk appears next to the option you selected.



5. Press ON LINE to return the printer to on-line.

— Symbol sets for HPLJ3 —

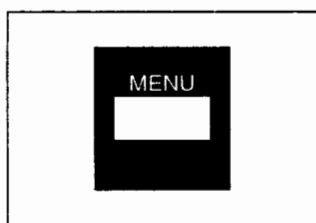
ROMAN-8	ISO-14,15,16,17,21	VN US
EC94-L1	ISO-25,57,60,61,69	PS MATH
PC8	ISO-84,85	PS TEXT
PC8 DN	GERMAN	MATH-8
PC-850	SPANISH	PI FONT
LEGAL	VN MATH	MS PUBL
ISO-2,4,6,10,11	VN INTL	WINDOWS
		DESKTOP

IBM Print Menu

The IBM ProPrinter XL-24e print menu is less extensive than that for the HPLJ3 described in the previous chapter. A complete list of the IBM print menu is in the *Appendix*. Of the seven settings available in IBM mode, five are the same as those in the HPLJ3. The two additional print menu items are described below.

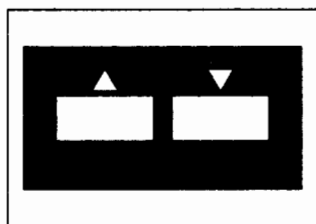
Symbol set

Select the default symbol set as summarized below. The symbol sets available for this emulation are shown in the chapter *Character and Symbol Sets*. One of two symbol sets can be selected: **MULTI**, or **USA**.



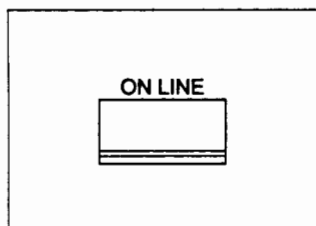
1. Set the printer off-line. Then press MENU briefly to access the print menu selections. Press MENU again until the SYM SET screen is shown.

SYM SET=MULTI *



2. Use the cursor keys to select the symbol set you want to use when printing. Press ENTER to register your selection. An asterisk appears in the LCD next to the option you selected.

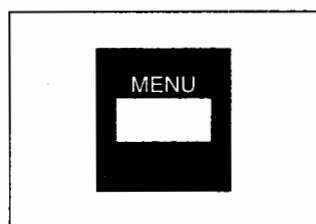
SYM SET=USA *



3. Press ON LINE to return the printer to on-line.

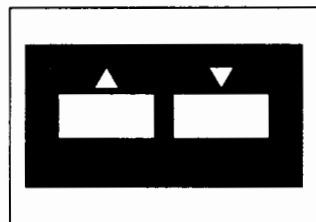
Character set

Select the default character set as summarized below. The character sets available for this emulation are shown in the chapter *Character and Symbol Sets*. One of three sets can be selected: 1, 2, or ALL.



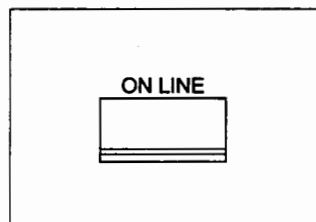
1. Set the printer off-line. Then press MENU briefly to access the print menu selections. Press MENU again until the CHR SET screen is shown.

CHR SET=2 *



2. Use the cursor keys to select the symbol set you want to use when printing. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

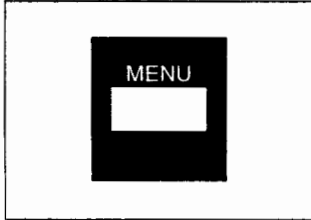
CHR SET=ALL *



3. Press ON LINE to return the printer to on-line.

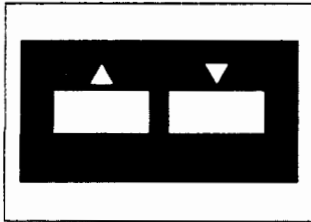
AGM

Select the Alternate Graphics Mode as described below. This mode provides a choice of 11 different graphics modes through the ESC* command. More information on this feature is available in the Emulation Guide. The default setting is OFF.



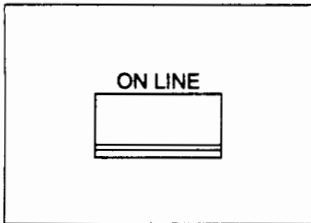
1. Set the printer off-line. Then press MENU briefly to access the print menu selections. Press MENU again until the AGM screen is shown.

AGM=OFF *



2. Use the cursor keys to select the Alternate Graphics Mode. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

AGM=ON *



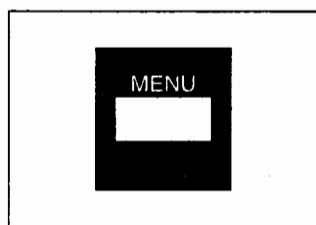
3. Press ON LINE to return the printer to on-line status.

Epson Print Menu

The Epson FX-850 print menu is about half the size of the HPLJ3 print menu. A complete list of the Epson print menu is provided in the *Appendix*. One item, the pitch setting, differs from that in the basic print menu. This is described below.

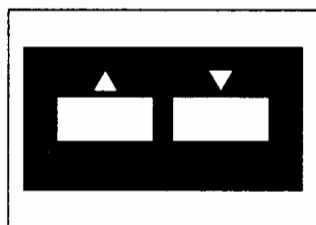
Pitch

Select the pitch for the default font as summarized below. You can select the following pitches: 10, 12, 17, 20, and PS.



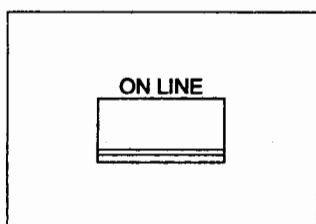
1. Set the printer off-line. Then press MENU briefly to access the print menu selections. Press MENU again until the PITCH screen is shown.

PITCH=10 *



2. Use the cursor keys to select the symbol set you want to use when printing. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

PITCH=17 *



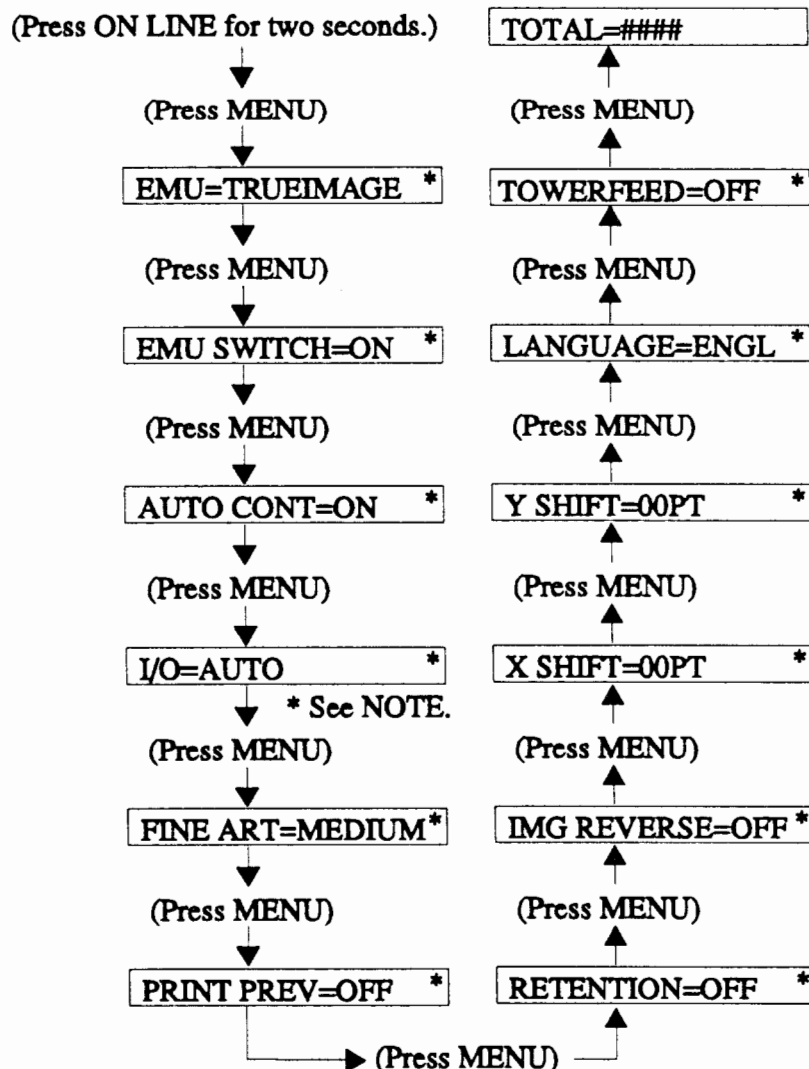
3. Press ON LINE to return the printer to on-line.

Basic Configuration Menu

The basic configuration menu consists of eleven items that can be set for all of the PrintPartner 10/10W emulations. These settings choose some of the special features available on this printer. A summary of the configuration menu selections for each emulation is provided in the *Appendix*.

The serial interface settings are described in the Interface connections section of the *Appendix*. Other configuration menu selections are described in the following sections.

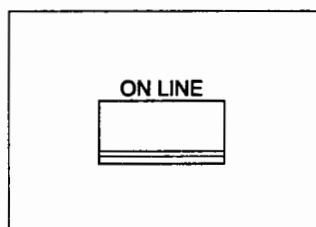
Throughout this chapter, an underlined menu option indicates the default setting for that item.



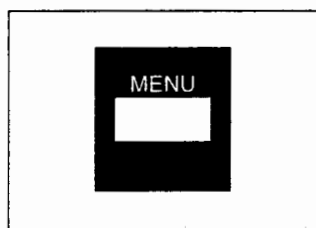
NOTE: When the I/O selection is AUTO or SERIAL, serial interface settings appear in this sequence. See page 7-22 for a complete list of this configuration menu.

Emulation

Select the default emulation (the emulation that appears automatically each time the power is turned on) as described below. This menu selection determines the contents of the print menu and the remainder of the configuration menu. The following emulations may be selected: TRUEIMAGE, HPLJ3, IBM, PRO, EPSON or FX. (Please note: when TRUEIMAGE is installed in the PrintPartner 10/10W, TRUEIMAGE is the default setting.)

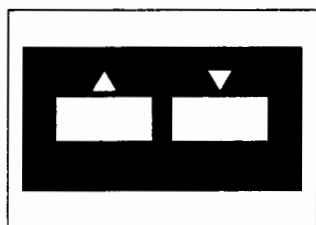


1. Press ON LINE to set the printer off-line.



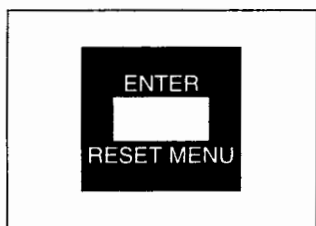
2. Press the MENU key for a few seconds to access the Configuration Menu. Then press MENU again until the EMU screen appears on the LCD.

EMU=TRUEIMAGE *

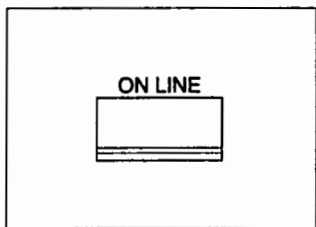


3. Use the cursor keys to select the emulation you want to use when printing.

EMU=HPLJ3



4. Press ENTER to register your selection. An asterisk appears next to the option you selected.



5. Press ON LINE to return the printer to on-line.

Emulation switch Select the emulation requested by the host computer without changing the emulation setting.

The setting ON1 enables the printer to switch between the emulations if the PrintPartner 10/10W receives a Printer Job Language (PJL) command from the host computer as described below.

The setting ON2 enables the printer to change the emulation to the default emulation each time the WAIT setting time is exceeded. A PJL command can also be used.

The default setting for this item is ON1.

1. Press ON LINE to set the printer off-line.
2. Hold down the MENU key for a few seconds to access the Configuration Menu. Then press MENU again until the EMU SWITCH screen appears on the LCD.

EMU SWITCH=ON1 *

3. Use the cursor keys to turn the emulation switching function off.

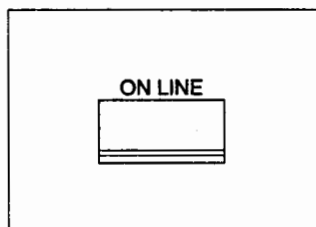
EMU SWITCH=OFF

4. Press ENTER to register your selection. An asterisk appears next to the option you selected.
5. Press ON LINE to return the printer on-line.

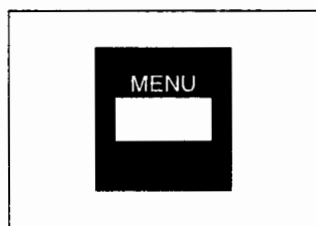
Automatic continue

When this setting is enabled, the PrintParner 10/10W will pause for ten seconds for certain automatically recoverable errors before continuing with printing operations. If this setting is not selected, printing operations will be stopped after error messages appear on the LCD.

The procedure for enabling or disabling this function is summarized below. The default setting is ON.

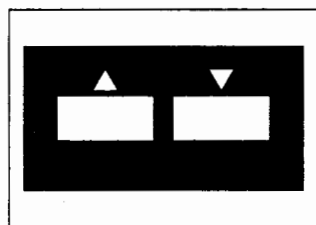


1. Press ON LINE to set the printer off-line.



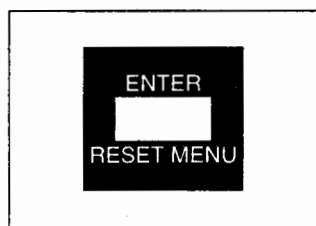
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the AUTO CONT screen appears on the LCD.

AUTO CONT=ON *

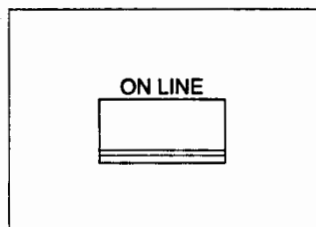


3. Use the cursor keys to turn the Automatic Continue function off.

AUTO CONT=OFF *

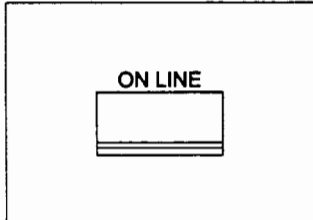


4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.

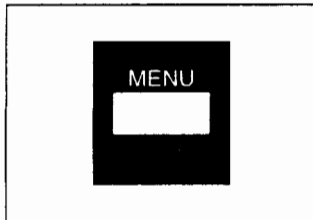


5. Press ON LINE to return the printer to on-line status.

Interface selection The procedure for selecting the communications interface is summarized below. The default setting allows the printer to select the interface automatically, according to the situation. The following options are available: AUTO, PARALLEL, SERIAL, APPLETALK. (AppleTalk is available only when TrueImage has been selected as the emulation.)

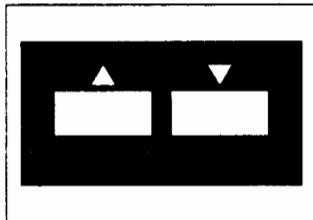


1. Press ON LINE to set the printer off-line.



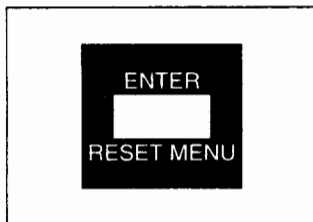
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the I/O screen appears on the LCD.

I/O=AUTO *

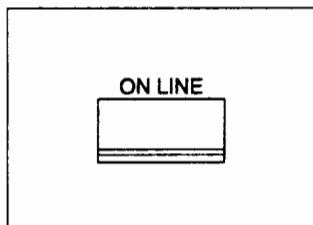


3. Use the cursor keys to select the interface you want to use.

I/O=APPLETALK *



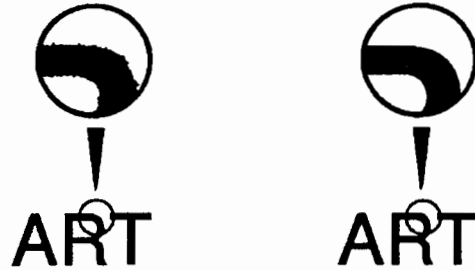
4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.



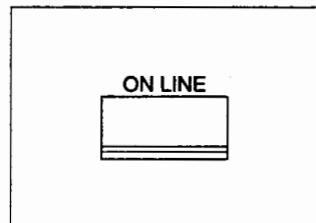
5. Press ON LINE to return the printer to on-line status.

Fine ART

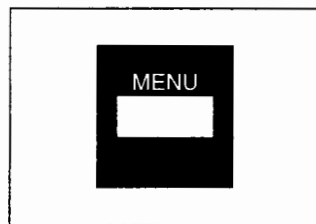
The Fine ART (Advanced Resolution Technology) function offers a means of refining still further the quality of the standard 300 dots per inch printing. Fine ART enhances the appearance of your printout by smoothing out fine flaws that exist along the edges of the printed characters.



The procedure to select the Fine ART setting is described below. You may want to compare several test pieces to find the setting that will best suit your printing needs. The following settings are available: OFF, DARK, MEDIUM, LIGHT.

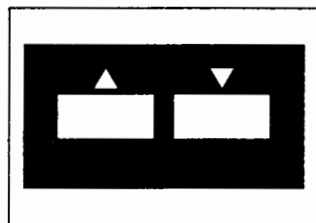


1. Press ON LINE to set the printer off-line.



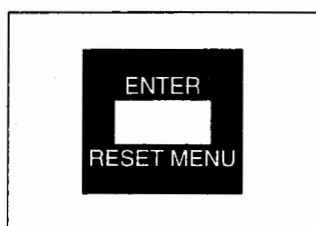
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the FINE ART screen appears on the LCD.

FINE ART=MEDIUM *

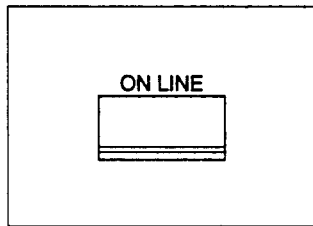


3. Use the cursor keys to change the setting selected for the fine art function.

FINE ART=DARK



4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.



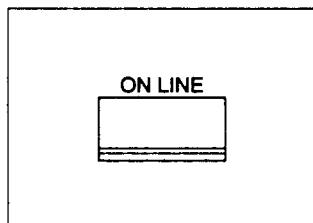
5. Press ON LINE to return the printer to on-line status.

Print preview

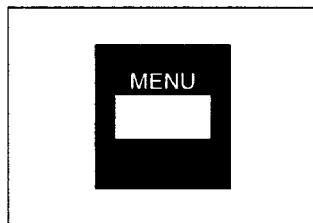
When printing multiple copies, the print preview function gives you an opportunity to check the results of the first printout before deciding to continue printing additional copies.

After the first copy of your data has been printed, the printer will pause and ask if you want to continue printing. Press CONTINUE to carry on printing, or RESET to end the operation.

The procedure for turning the print preview function on and off is described below. The default setting for this item is OFF.

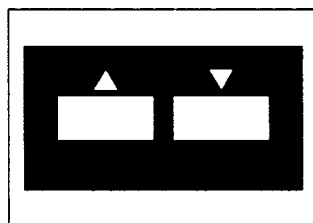


1. Press ON LINE to set the printer off-line.



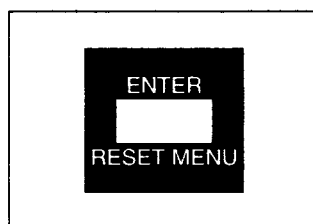
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the PRINT PREV screen appears on the LCD.

PRINT PREV.=OFF *

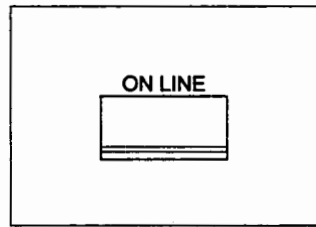


3. Use the cursor keys to turn on the print preview function.

PRINT PREV.=ON



4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.

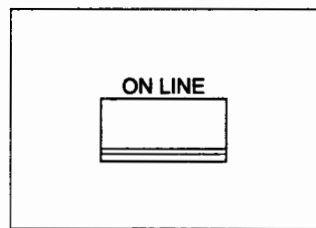


5. Press ON LINE to return the printer to on-line status.

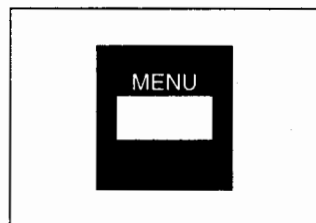
Image retention

During retention mode, the last page printed is maintained in memory so it can be reprinted. At the end of a print job, set the printer off-line and press FORM FEED. Use the cursor keys to select the number of extra copies (up to 99) you want print, then press FORM FEED again to print them out.

The procedure for turning the retention function on and off is described below. The default setting for this item is OFF.

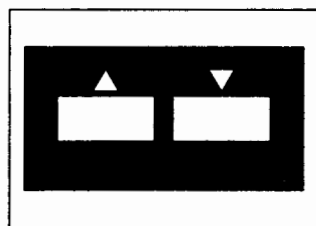


1. Press ON LINE to set the printer off-line.



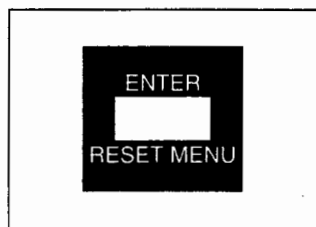
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the RETENTION screen appears on the LCD.

RETENTION=OFF *

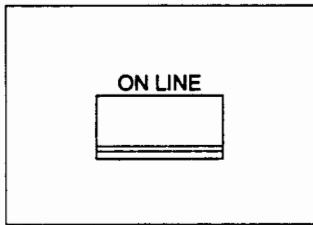


3. Use the cursor keys to turn on the retention function.

RETENTION=ON



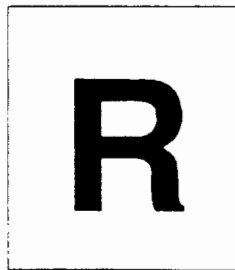
4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.



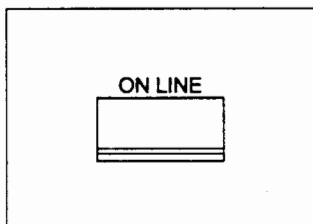
5. Press ON LINE to return the printer to on-line status.

Image reverse

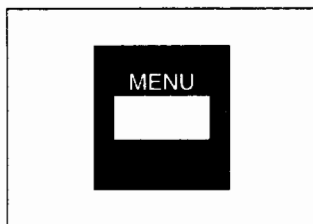
This setting reverses black and white areas, resulting in a 'negative' of the text or images being printed. This feature makes for dramatic presentation of data that requires added emphasis.



The procedure for turning the image reverse function on and off is described below. The default setting for this item is OFF.

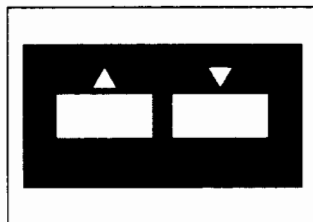


1. Press ON LINE to set the printer off-line.



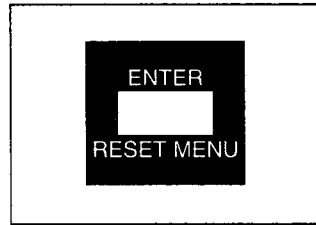
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the IMG REVERSE screen appears on the LCD.

IMG REVERSE=OFF *

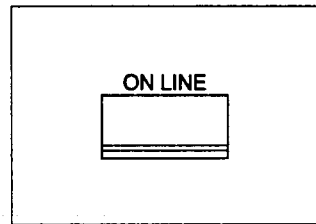


3. Use the cursor keys to turn on the image reverse function.

IMG REVERSE=ON



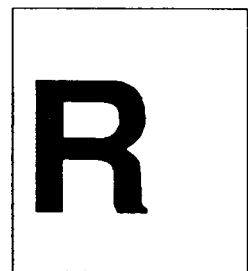
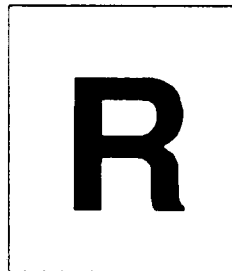
4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.



5. Press ON LINE to return the printer to on-line status.

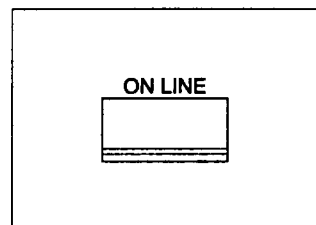
Image shift

During an image shift operation, the image is moved either up or down, to the right or to the left. The page orientation must be considered when specifying the degree of shift for the X and Y axes.

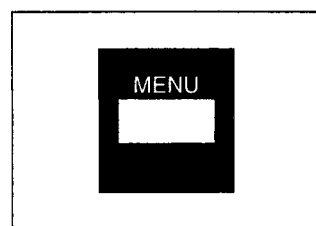


4. Menu
Selections

The procedure for an image shift operation is carried out in two steps, one each for the X (horizontal) axis and Y (vertical) axis. This procedure is summarized below. The amount of shift can be selected anywhere within the range -10.00 - +10.00 points. The default setting (for both X and Y) is 00.



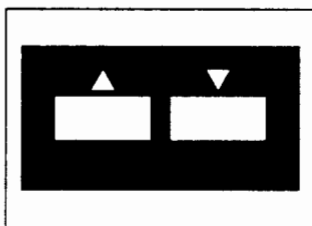
1. Press ON LINE to set the printer off-line.



2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the X Shift (or Y shift) screen appears on the LCD.

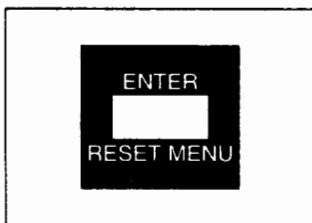
X SHIFT=00PT.

*

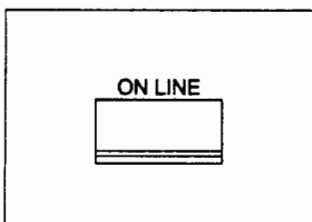


3. Use the cursor keys to select the amount of shift along the X (Y) axis.

X SHIFT=+05PT. *



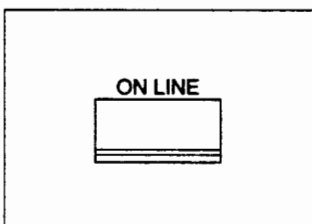
4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.



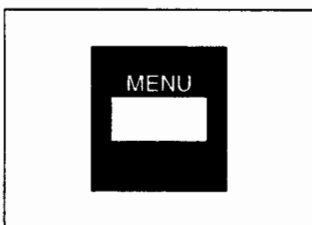
5. Press ON LINE to return the printer to on-line status.

Language

The procedure for selecting the panel description language is described below. English, French, German, Italian, or Spanish may be selected as the panel description language. The following language selections are available: ENGL, FREN, GERM, ITAL, SPAN.



1. Press ON LINE to set the printer off-line.



2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the LANGUAGE screen appears on the LCD.

LANGUAGE=ENGL *

3. Use the cursor keys to select a panel description language.

LANGUAGE=GERM

4. Press ENTER to register your selection. An asterisk will appear next to the option you have selected.
5. Press ON LINE to return the printer to on-line status.

TowerFeed

Enable the PrintPartner 10 to be used with the TowerFeed. When this menu is ON, the serial port will be used for the communication between the PrintPartner 10 and the TowerFeed.

The default setting for this item is OFF.

1. Press ON LINE to set the printer off-line and hold down the MENU key to access the Configuration Menu, then press it again until the TOWERFEED screen appears on the LCD.

TOWERFEED=OFF *

2. Use the cursor keys to turn on the TowerFeed function and press ENTER to register your selection. An asterisk will appear next to the option you have selected.
3. Press ON LINE to return the printer to on-line status.

Total print count

This procedure informs the user of the current number of prints that have been made by the printer. Follow the steps described below.

1. Press ON LINE to set the printer off-line.
2. Hold down the MENU key for a few seconds to access the Configuration Menu, then press it again until the TOTAL screen appears on the LCD.

TOTAL=#####

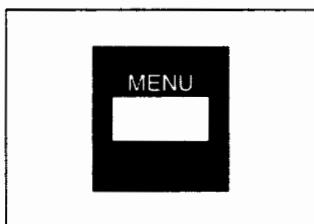
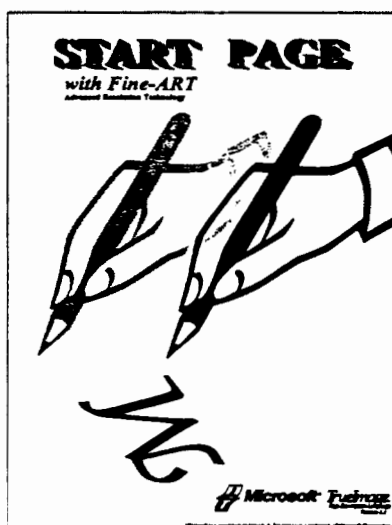
3. The number that appears in the LCD will represent the total number of prints that have been made by the printer to date. Press ON LINE to return the printer to on-line status.

TrueImage Configuration Menu

In addition to the basic configuration menu selections, these items are included in the TrueImage configuration menu. A complete list of the TrueImage configuration menu is provided in the *Appendix*.

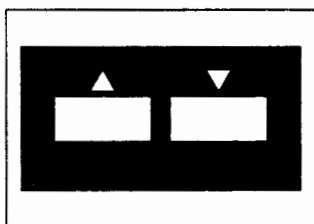
Start page

This setting can be selected to have a test page printed each time the printer is turned on. The procedure for changing this setting is described below. The default setting is ON.



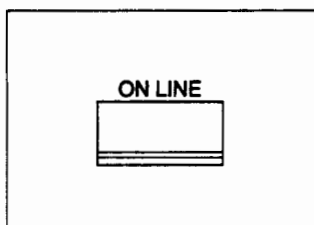
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the START PAGE screen is shown.

START PAGE=ON *



2. Use the cursor keys to enable test printing each time the printer is turned on. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

START PAGE=OFF *

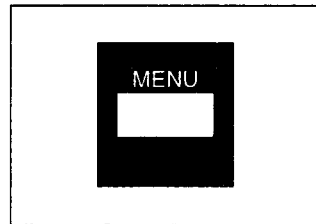


3. Press ON LINE to return the printer to on-line status.

Jam recovery

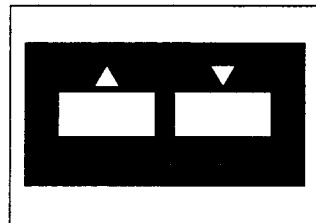
If this setting has been selected when a paper jam occurs, the data is stored in memory until the jam is cleared. Printing can then continue directly from the point where it left off. This is done automatically in the other emulations, but must be specified for TrueImage.

The procedure for changing this setting is described below. The default setting is OFF.



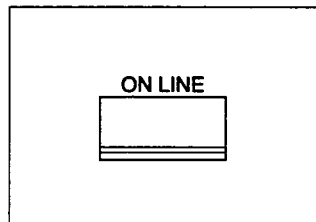
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the JAM RECOVER screen is shown.

JAM RECOVER=OFF *



2. Use the cursor keys to enable printing to be carried out a second time from the page where a jam occurred. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

JAM RECOVER=ON *

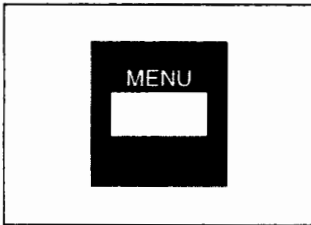


3. Press ON LINE to return the printer to on-line status.

Printer error

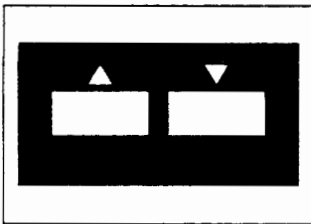
The printer error setting reports recoverable errors such as communications errors. The printing operation is then retried automatically. If this is unsuccessful, the print job will be aborted. This is done automatically in the other emulations, but must be specified for TrueImage.

The procedure for changing this setting is described below. The default setting is OFF.



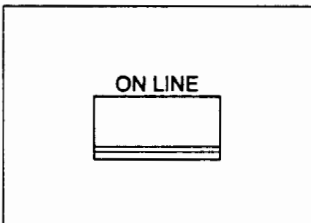
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the PRT TI ERR screen is shown.

PRT TI ERR=OFF *



2. Use the cursor keys to enable a second attempt to print following recoverable errors. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

PRT TI ERR=ON *



3. Press ON LINE to return the printer to on-line status.

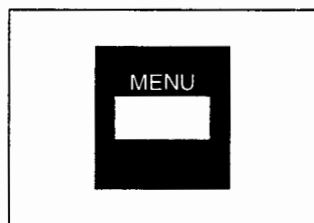
Page Buffer

This function enhances the printer throughput when several pages are being printed during TrueImage mode. While the current page is being printed, a second page will be processed in the printer memory, preparing it for printing. The page buffer selection will appear in the configuration menu only if 4MB of memory or more have been installed in the printer.

There are two page buffers. Buffer 1 is the standard mode, using a Frame Buffer to process one additional page at a time. This page buffer can be used effectively when printing many downloaded fonts that will require a lot of printer memory, or when only a small amount of Virtual Memory is available.

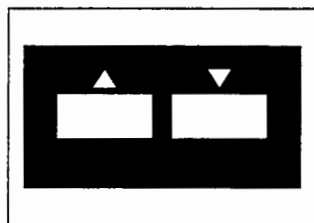
Buffer 2 allows the use of two Frame Buffers, resulting in the processing of two additional pages of data at a time, thus improving throughput still further. This page buffer can be used most effectively when printing multiple pages of a short document continuously.

The default setting is 1.



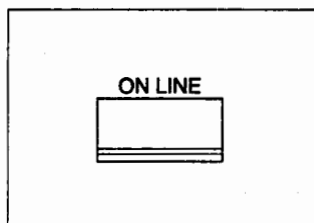
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the PAGE BUFFER screen is shown.

PAGE BUFFER=1 *



2. Use the cursor keys to select the Page Buffer use want to use. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

PAGE BUFFER=2 *



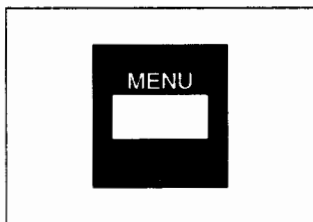
3. Press ON LINE to return the printer to on-line status.

General Configuration Menu

The general menu selections described here are available only under specific circumstances. A complete list of the configuration menus for all emulations is provided in the *Appendix*.

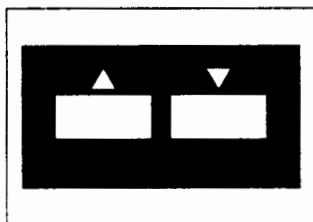
Full bitmap

This item selects the paper size used for the bitmap memory. The full bitmap setting is available for all of the emulations except TrueImage. The procedure for selecting this paper size is described below. (This item will not be displayed unless additional memory has been installed.)



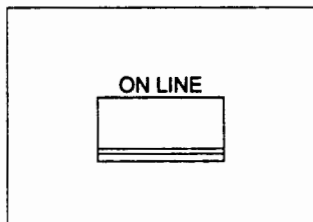
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the FULL BITMAP screen is shown.

FULL BITMAP=OFF *



2. Use the cursor keys to select the paper size you want to use. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

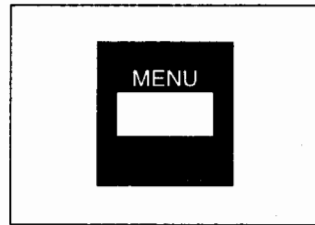
FULL BITMAP=LTR *



3. Press ON LINE to return the printer to on-line status.

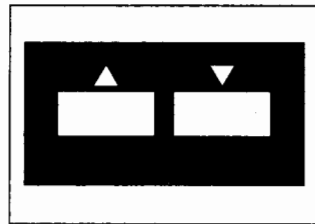
Wait time

This setting establishes the time interval between the end of a print job and the idle state. This item appears in the configuration menu only if the interface selection (I/O) is set to AUTO. The following time intervals can be selected: 5SEC, 30SEC, 1MIN, 2MIN, 3MIN, INFINTE. (If the infinite time setting is selected, it will be necessary to reset the printer after each print job.)



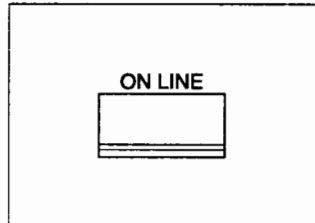
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the WAIT screen is shown.

WAIT=5SEC *



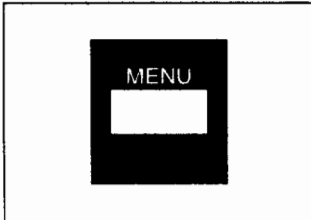
2. Use the cursor keys to select the time interval. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

WAIT=30SEC *



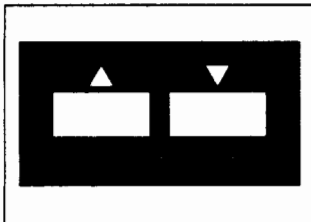
3. Press ON LINE to return the printer to on-line status.

Hexadecimal dump During the hexadecimal dump mode, received data is printed as hexadecimal and ASCII codes. Hexadecimal dump is available for all emulations except TrueImage. The procedure for selecting hexadecimal dump is summarized below.



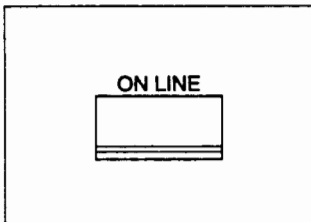
1. Set the printer off-line, then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the HEX DUMP screen is shown.

HEX DUMP= OFF *



2. Use the cursor keys to select the hexadecimal dump mode. Press ENTER to register your selection. An asterisk will be shown in the LCD next to the option you have selected.

HEX DUMP=ON *



3. Press ON LINE to return the printer to on-line status.

Chapter **5** --- *Maintenance*

In this chapter

This chapter provides user maintenance information for the PrintPartner 10/10W.

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Cleaning the Printer

Fine particles of dust from the paper can accumulate inside the PrintPartner 10/10W. Any accumulation of dirt or dust, either inside or outside of the machine, could have an adverse affect on the printer's performance. You should clean the printer on a regular basis to prevent potential malfunctions.

When cleaning either the inside or outside of the printer, be sure to unplug the power cord of the printer. Use a damp cloth, and avoid using abrasive or potentially corrosive cleansers.

The Fusing Unit inside the printer can become hot during operation. Either clean inside the printer before use, or wait a few minutes to give the fusing unit time to cool down.

External cleaning

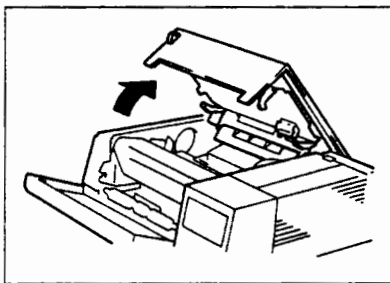
Be sure to disconnect the printer from the main power supply before cleaning the PrintPartner 10/10W.

Wipe the cover and external parts of the printer with a damp cloth that has been soaked in a neutral cleaning solution.

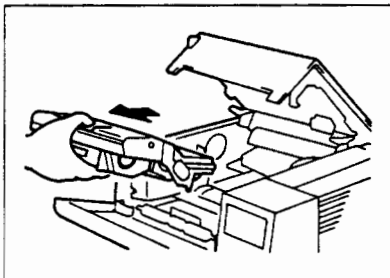
Internal cleaning

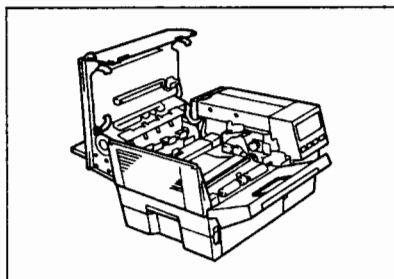
Be sure the printer is disconnected from the main power before proceeding. Follow the instructions below to clean inside the PrintPartner 10/10W.

1. Open the printer to position 1.

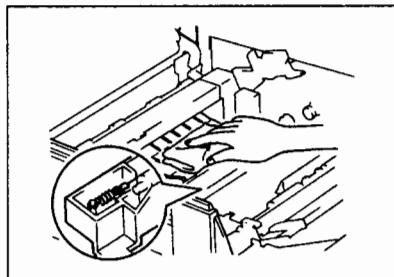


2. Remove the imaging cartridge.





3. Open the printer to position 2.



4. Taking care not to damage the transfer corona charge wire, use a soft cloth to wipe the inside of the printer. If the interior is especially dirty, soak the cloth lightly in ethyl alcohol before cleaning.

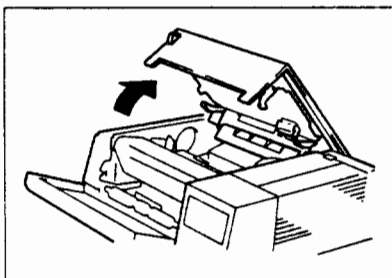
— Cover the Imaging Cartridge —

After removing the imaging cartridge from the PrintPartner 10/10W, cover it with a thick cloth or similar material to shield it from light. Prolonged exposure to light can result in deterioration of the imaging cartridge's performance.

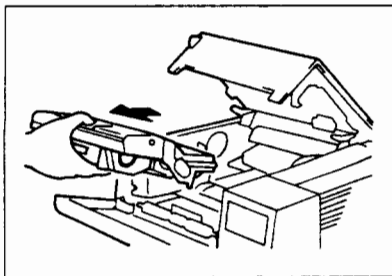
Replacing the imaging cartridge

Cleaning before replacement

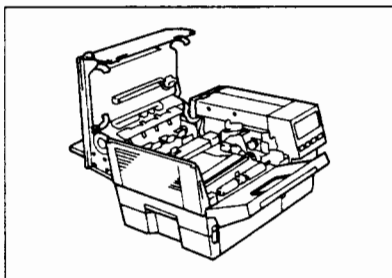
Follow the instructions below to clean the interior of the unit before replacing the Imaging Cartridge.



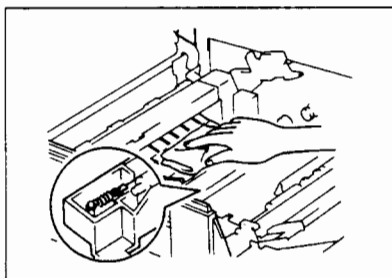
1. Open the printer to position 1.



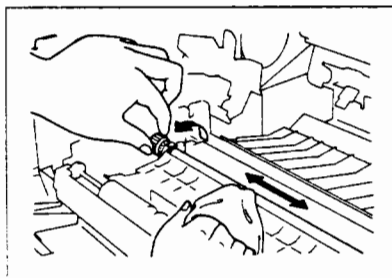
2. Remove the used imaging cartridge.



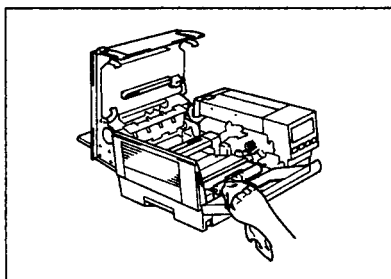
3. Open the printer to position 2.



4. Taking care not to damage the transfer corona charge wire, use a soft cloth to wipe the inside of the printer.



5. Rotate the synchronizing roller and wipe the surface clean using a cloth soaked lightly in ethyl alcohol.

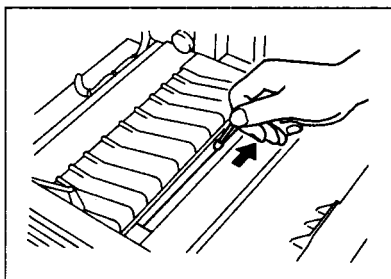


6. Wipe the surface of the upper 1st transport and manual feed rollers with a cloth soaked in ethyl alcohol.

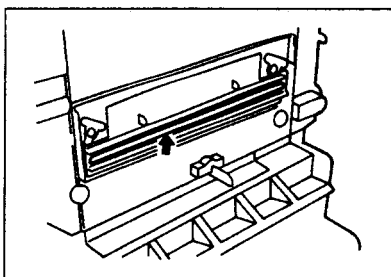
Additional operations

In addition to cleaning the rollers inside the printer, the transfer charge corona wire requires cleaning, and a new cleaning pad must be fitted in place each time the imaging cartridge is replaced. The new cleaning pad is provided in the Imaging Cartridge package.

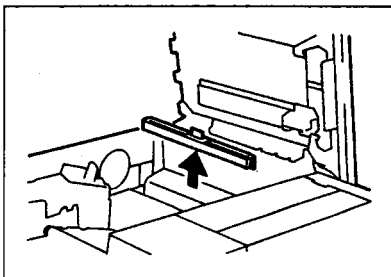
The fusing unit can become hot during the operation of the machine. Because the transfer charge corona wire is located near the fusing unit, allow a few minutes to let this section cool down.



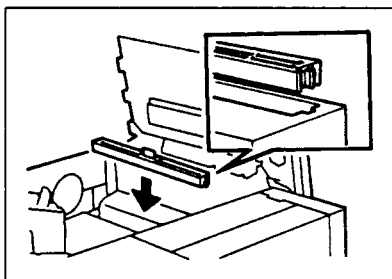
1. Use the cotton swab (that comes with the imaging cartridge) to clean the top of the transfer corona charge wire.



2. Wipe the glass of the cleaning head unit (optical unit) with soft cloth.



3. Remove the old cleaning pad from the fusing section of the printer.

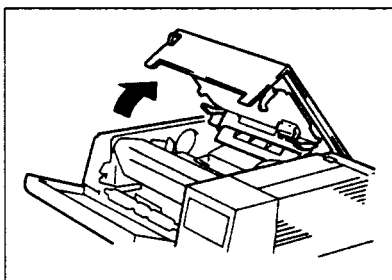


4. Install the new cleaning pad in position.

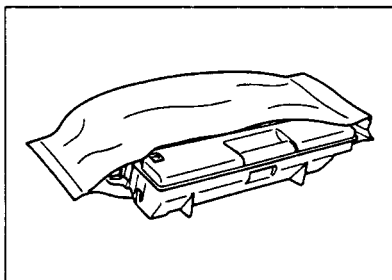
Installing the new Imaging Cartridge

An imaging cartridge prints approximately 8,000 pages of A4 (or Letter) size paper printing at 5% print density. When the cartridge is nearly out of toner, the TONER LOW screen appears on the LCD. After this message appears, the cartridge can be used to print a maximum of 50 additional pages.

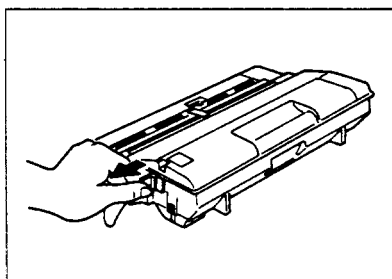
When the TONER EMPTY screen appears on the LCD, follow the steps below to replace the imaging cartridge with a new one. Be sure to use an imaging cartridge 2 when making this replacement. (The used imaging cartridge should be removed during the previous cleaning operation.)



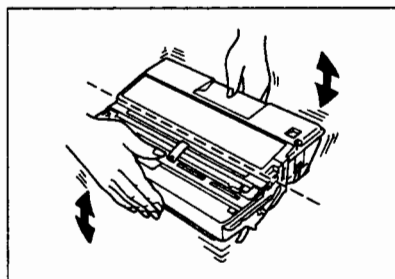
1. Open the printer to position 1.



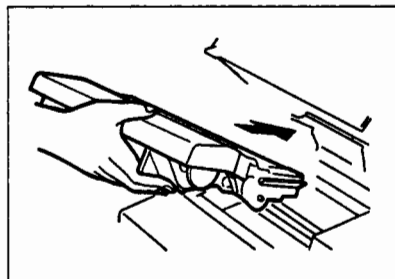
2. Remove the new imaging cartridge from its light protective bag. Shake the imaging cartridge from side to side to distribute the toner inside.



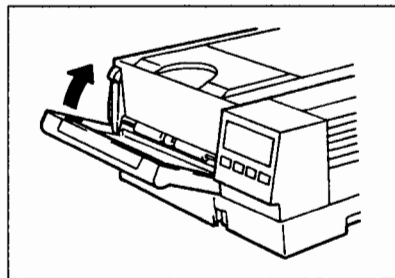
3. Grasp the tag at the side of the cartridge and gently pull it straight out to peel off the toner seal. Be sure to pull the tape all the way out of the cartridge.



4. After removing the toner seal, rock the cartridge again four or five times to keep the toner inside evenly distributed.



5. Fit the imaging cartridge into the slots on the inside of the upper unit of the printer. Insert it as far as it will go into the unit.



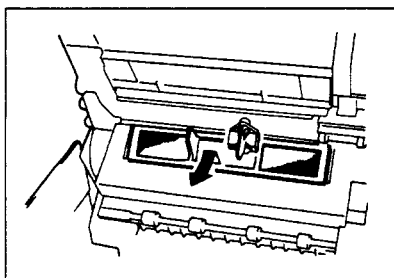
6. Close the upper unit and the universal tray (manual feed).

The Ozone Filter

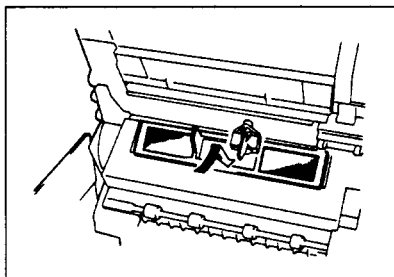
Since ozone is generated inside the PrintPartner 10/10W during the printing process, a specially-designed filter is provided on the rear side of the printer. Although this substance breaks up quickly when released from the printer, this filter provides extra environmental protection.

Replacing the Ozone Filter

The ozone filter should be replaced every six months or 30,000 prints. Follow the instructions below to replace the filter.



1. Hold the tab of the filter and pull it away from the printer.



2. Dispose of the old filter and insert the new one.

Chapter **6** --- *Troubleshooting*

In this chapter

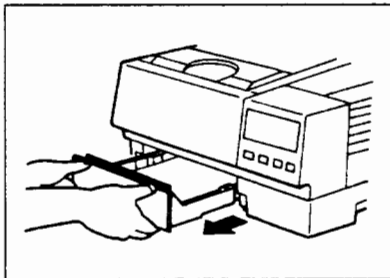
This chapter provides information about troubleshooting the PrintPartner 10/10W.

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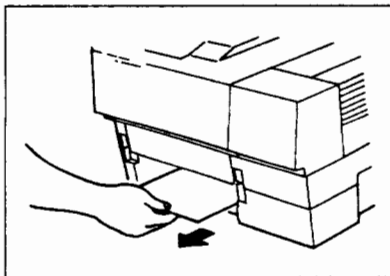
Correcting Paper Jams

Paper Cassette jams

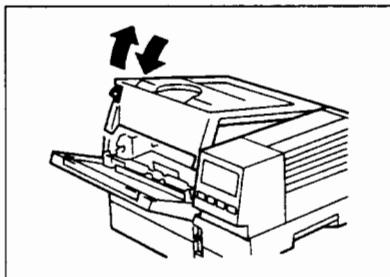
Follow the steps below to correct paper jams at the paper cassette.



1. Remove the paper cassette to see if the paper has been fed completely into the printer.



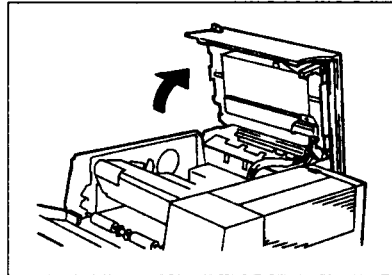
2. If a reasonable portion of the page remains outside the main unit, remove the paper.



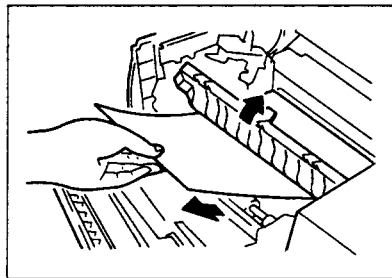
3. Open the universal tray (manual feed) and the upper unit. Then close them to reset the paper jam message on the LCD. The printer resets itself to continue printer operation.

Jams inside the printer

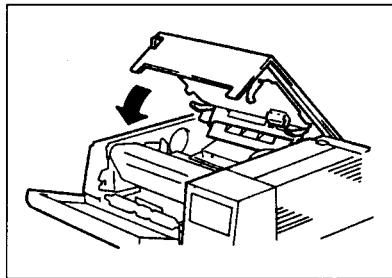
Follow the steps below to correct paper jams inside the main unit of the printer.



1. Open the printer to position 2.



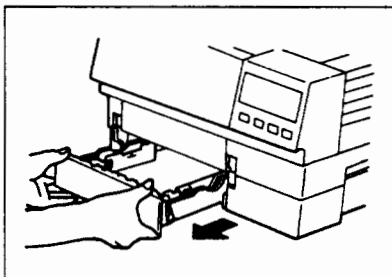
2. Raise the synchronizing roller release lever and remove the jammed paper from the main unit.



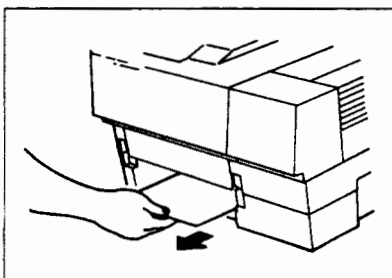
3. Close the upper unit and the universal tray (manual feed). The printer resets itself to continue operations.

Jams at the SPCU (Second Paper Cassette Unit)

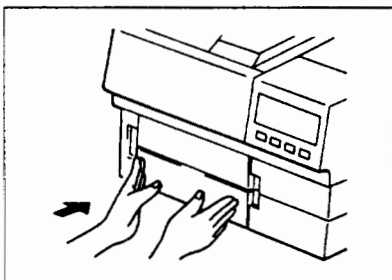
Follow the steps below to correct paper jams that occur at the second paper cassette unit.



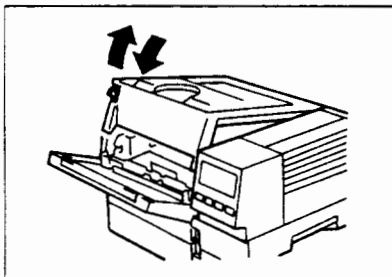
1. Remove the universal paper cassette.



2. Take the jammed paper out of the universal paper cassette.



3. Replace the paper cassette.



4. Open the universal tray (manual feed) and the upper unit. Then close them to reset the paper jam message on the LCD. The printer resets itself to continue printer operation.

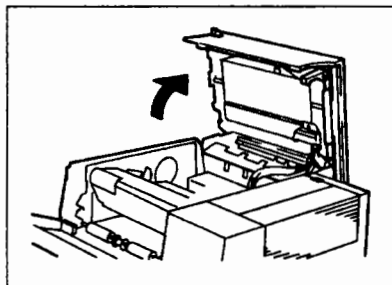
— Too many paper jams at the SPCU —

If paper jams occur frequently at the second paper cassette unit, you can correct this by cleaning the optional paper take up rolls. Remove the main unit from the top of the SPCU. Then use a soft cloth dampened with methylated spirits to clean the optional paper take up rolls.

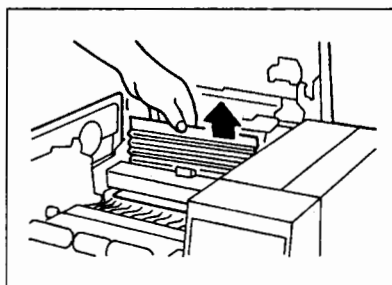
**Jams at the
FUT (Face Up
Tray)**

If paper is jammed outside the main unit at the face up tray, open the printer to position 1, remove the jammed piece of paper, and close the main unit.

Follow the steps below to correct paper jams that occur inside the FUT.



1. Open the universal tray (manual feed) and the upper unit of the printer.



2. Remove the jammed paper from inside the face up tray.

Print Test Problems

No test produced If a test is not produced when you attempt to run a print test (as described in the chapter *Setting Up*), use the following guidelines to assist you in finding the source of specific problems.

Refer to the “Error messages” section in the Appendix of this manual to correct the error.

Check the imaging cartridge. Remove the cartridge and shake it to redistribute the toner inside. Replace if necessary.

No print is produced, although the expected status is shown on the LCD.

Contact the dealer where you purchased the printer.

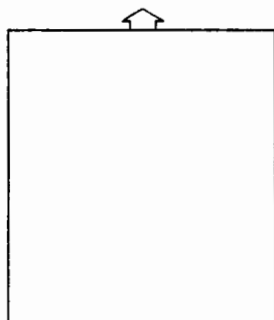
Test quality is unacceptable

If the results of the printing test are of unacceptable quality - with offset letters, a foggy background, or some other problem - check the setting of the image density adjusting knob.

If the image density adjusting knob is not set to the center position, reset it to that position, and run the test again. Adjust the knob as necessary to obtain a printout of acceptable quality.

Print Quality Problems

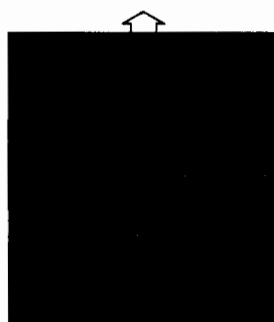
Blank pages



If the pages printed by the PrintPartner 10/10W are completely blank, you may find an answer to the problem below.

- The imaging cartridge may be out of toner. Remove the cartridge and shake it a few times to redistribute the toner inside. If the problem persists, replace the cartridge.
- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.
- The sealing tape may not have been removed from the imaging cartridge prior to installation. Check the cartridge, and remove the tape if necessary.
- The transfer corona charge wire may be cut or damaged. If this is the case, contact your PrintPartner 10/10W service outlet.

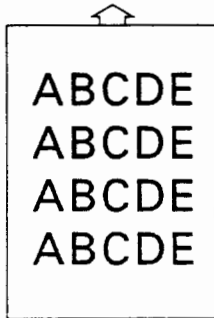
Black pages



If the pages printed by the PrintPartner 10/10W are completely black, you may find an answer to the problem below.

- The imaging cartridge may not be fitted properly inside the printer. Open the printer, reinstall the cartridge, and test the printing again.
- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.
- Your printer may be due for a service check. Contact your PrintPartner 10/10W service outlet.

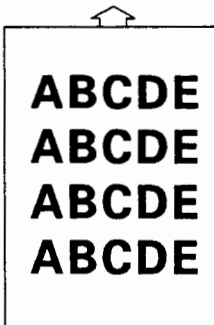
Printout too light



If the pages printed by the PrintPartner 10/10W are faded or too light, you may find an answer to the problem below.

- The image density adjustment knob may be set to the light position. Set the knob to the center position and test the printing again.
- The imaging cartridge may be running low on toner. Remove the cartridge and shake it a few times to redistribute the toner inside. If the problem persists, replace the cartridge.
- The transfer corona charge wire may be dirty. Clean the wire as described in the chapter *Maintenance* in this manual.
- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.

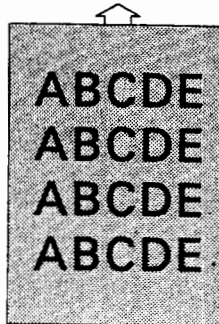
Printout too dark



If the pages printed by the PrintPartner 10/10W are too dark, you may find an answer to the problem below.

- The image density adjustment knob may be set to the dark position. Set the knob to the center position and test the printing again.
- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.
- Check the font setting that you set with your computer software. The font setting may be set to bold.

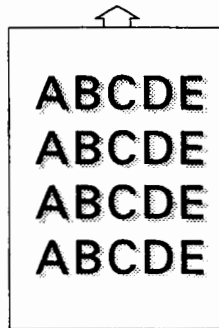
Blurred background



If the pages printed by the PrintPartner 10/10W have a blurred background, you may find an answer to the problem below.

- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.

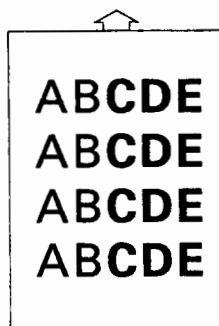
Offset (double) image



If offset or double images print, you may find an answer to the problem below.

- The cleaning pad in the fusing section may be worn out. Check the pad, and replace it if necessary.

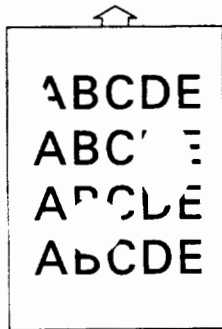
Uneven print density



If the print density is uneven along one side of the page, you may find an answer to the problem below.

- The toner may be unevenly distributed inside the imaging cartridge. Remove the cartridge from the printer and shake it a few times to redistribute the toner inside.
- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.
- The transfer corona charge wire may be dirty. Clean the wire as described in the chapter *Maintenance* in this manual.

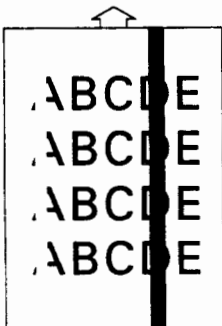
Irregularities



If irregularities or dropouts print, you may find an answer to the problem below.

- The paper being used may have absorbed moisture (perhaps due to high humidity or having water spilled on the paper supply). Toner does not adhere well to paper if it is wet. Replace the paper in the paper cassette with dry paper, and test the printing again.

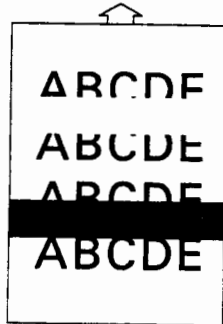
White (or black) stripes



If black or white stripes print, you may find an answer to the problem below.

- The glass in the window of the printer head unit may be dirty. Open the printer to position 2 and use a soft cloth to clean the glass, which is located at the bottom of the printer head unit (optical unit).
- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.
- The transfer corona charge wire may be dirty. Clean the wire as described in the chapter *Maintenance* in this manual.

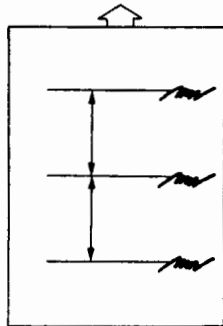
White (or black) bands



If black or white bands print across the pages, you may find an answer to the problem below.

- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.

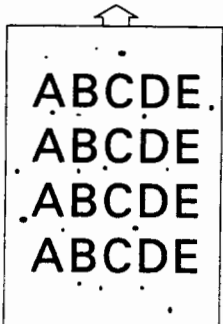
Repeated flaws



If flaws or marks print repeatedly at regular intervals, you may find an answer to the problem below.

- There may be a scratch on the photoconductive drum inside the imaging cartridge. Install a new cartridge and test the printing again.
- The imaging cartridge may have been exposed to too much light from external sources. Install a new cartridge and test the printing again.

Toner smudges



If smudges from the toner appear, you may find an answer to the problem below.

- The imaging cartridge may be defective. Remove and check the cartridge for damage. Install a new cartridge if needed.
- If you find smudges on the back of the pages being printed, the inside of the printer may be dirty. Follow the cleaning instructions described in the chapter *Maintenance*.

No printout

If a printout is not produced, it may indicate an error in the communication interface between the computer and printer. The following guidelines provide some possible ways to solve the problem.

Save your data and end the operations being carried out on the computer. Reset the computer. This transmits a 'break' signal to the printer. Check the interface specifications described in the Appendix of this manual.

Refer to the interface specifications described in the Appendix of this manual to check the parameter interface settings.

Refer to your computer user's manual to see if the current communications port settings are correct.

Enter the print command again. If no printout appears, try to print a sequence of DOS commands, as described in the Appendix of this manual.

Chapter *Appendix* **7**

In the appendix

The appendix provides the following information on the PrintPartner 10 & PrintPartner 10W.

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LCD Messages

LCD messages inform you of the printer's current status and any errors that may occur in the course of printer operation. These messages are described in the following pages.

Status messages

Status messages inform you of the printer's current operating conditions. A summary of the status messages used for the PrintPartner 10/10W is provided below.

00 READY XXX

The printer is ready to receive data.

- No recovery required.

00 READY HEX

The printer is in the hexadecimal dump mode. This message appears for the HPLJ3, IBM, and Epson emulations.

- Turn off the printer, then turn it on again to cancel the mode.

09 TONER LOW

The toner is running low in the imaging cartridge.

- Approximately 50 additional pages can be printed following the current printing job.

01 PROCESSING

Data is being received or processed.

- Recovery is automatic.

02 PRINTING

The unit is printing or feeding out the printed page.

- Recovery is automatic.

02 COPYING

The unit is printing a copy or feeding multiple printouts.

- Recovery is automatic.

03 PRINT FONT

A font sample is being printed.

- Recovery is automatic.

03 PRINT TEST	A test pattern is being printed. • Recovery is automatic.
HPLJ3 CONFIG MENU	The configuration menu has been accessed. This message appears on the LCD for the HPLJ3, TrueImage (optional for the PrintPartner 10), IBM, and EPSON emulations. • Press the ON LINE key.
11 EXTRA COPIES=XX	Select the number of copies to be printed during retention mode. • Press the FORM FEED key to continue retention. Recovery is automatic.
12 CONTINUE ?	Requests confirmation to continue printing after previewing during print preview mode. • Press CONTINUE to continue printing, or RESET to cancel printing.
13 COPY ABORTED	Printing canceled during print preview mode. • After print preview is canceled, recovery is automatic.
21 WARMING UP	The printer is warming up. • Recovery is automatic.
23 RESET	Clears downloaded fonts and page data in the printer. (The menu settings are not reset.)
24 MENU RESET	Clears downloaded fonts and page data in the printer. (The print menu settings are reset.)
26 INITIALIZE	The printer is running an initialization procedure. • Recovery is automatic.

27 SELF TEST

The printer is running a self-test.

- Recovery is automatic.

Error messages

Error messages are divided into three types. The printer is capable of clearing some errors. Automatic recovery errors are numbered 30-39. User recovery messages require you to correct an error before operation continues. Fatal errors, which require the attention of trained service personnel, are numbered 62-98.

Automatic recovery messages

Automatic recovery errors display a message on the screen for a few seconds. You do not need to do anything immediately in response to an error of this type. If the auto continue mode is selected, wait 10 seconds, and the printer will continue operations automatically.

Most of these errors can be traced to a problem with the computer interface settings. Check these settings, then turn off the power and start the printer again.

30 OVERFLOW

The printer received more data than can be fit into its internal memory. Either reduce the number of downloaded fonts or expand the memory.

31 TOO COMPLEX

Data received by the printer was too complex.

32 TI ERR (##)

A TrueImage error occurred.

34 PARITY ERROR

A parity error occurred at the serial port.

35 FRAMING ERR

A framing error occurred at the serial port.

36 OVERRUN ERR

An overrun error occurred at the serial port.

37 BUFFERFUL ERR

A buffer full error occurred at the serial port.

User recovery messages

User recovery errors display a message that gives some indication of the source of the problem. Follow the instructions in this section to correct the error. The printer returns to its previous status once the error is corrected.

41 PAPER JAM 1

A paper jam occurred near the paper take-up section.

- Remove the paper and close the printer.

41 PAPER JAM 2

A paper jam occurred between the paper take-up section and the fusing unit.

- Remove the paper and close the printer.

41 PAPER JAM 3

A paper jam occurred near the fusing unit.

- Remove the paper and close the printer.

29 PRINTER OPEN

Either the upper unit of the printer was not closed correctly or the imaging cartridge was not installed properly.

- Close the printer again.

28 NO CARTRIDGE

The imaging cartridge was not installed or was not installed correctly.

- Install the cartridge correctly, and close the printer.

49 TONER EMPTY

The supply of toner is depleted.

- Replace the imaging cartridge.

17 LOAD FONT

A font cartridge was removed or replaced while the printer was off-line, although data was stored in the printer's buffer.

- Recovery is automatic.

18 LOAD PAPER SIZE

The paper size specified is loaded.

- Load the correct paper to the feeder being used.

19 PAPER OUT UPC

The standard paper cassette is empty.

- Add paper to the paper cassette.

19 PAPER OUT LPC

The second paper cassette unit (SPCU) is empty.

- Add paper to the second paper cassette unit (SPCU).

19 PAPER OUT TF#

The paper in the specified TowerFeed is empty.

- Add paper into the paper drawer.

20 LOAD TF#

The specified drawer in the TowerFeed is not securely closed.

- Securely close the drawer again.

42 PAPER JAM TF

A paper jam occurred in the TowerFeed.

- Remove the paper, open and close the printer again.

54 ERROR TF

An error occurred in the TowerFeed.

- Power off the TowerFeed, then power it on again.

55 CHECK TF

An error occurred in the communication with the TowerFeed.

- Power off the printer and the TowerFeed, check the interface connection between the printer and the TowerFeed, and power them on again.

Fatal errors

Fatal errors have to do with a malfunction in the internal operation of the printer. If one of these error messages appears, turn off the power ON/OFF switch and wait a few moments. Turn on the printer again. If the problem persists, the problem is serious. Contact your local PrintPartner 10/10W service outlet.

Interface Connections

Serial interface settings

When a serial interface cable is used, a series of communications parameters must be set up between the computer and printer. The procedures to set these parameters are described in the pages that follow.

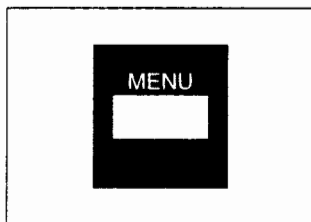
The following parameters must match exactly on the computer and printer, or data will not be transferred correctly.

- Baud rate
- Handshake
- DTR polarity
- Data/Stop
- Parity

These parameters are included in the configuration menu. However, they are displayed only if AUTO or SERIAL are selected as the I/O setting.

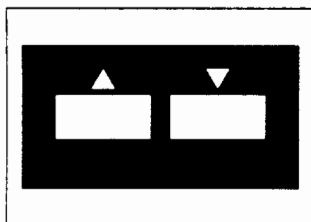
Serial interface

The serial interface setting tells the printer which type of serial interface is being used. You can currently select only RS232C.



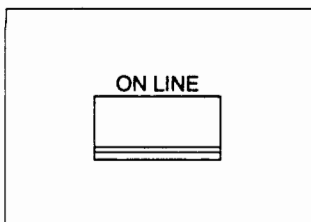
1. Set the printer off-line. Then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the SERIAL screen is shown.

SERIAL=RS232C *



2. Use the cursor keys to select the type of serial interface being used. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

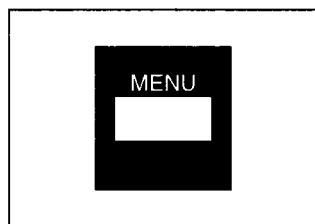
SERIAL=RS232C *



3. Press ON LINE to return the printer to on-line.

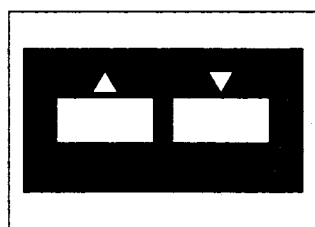
Baud rate

The baud rate indicates the data transmission speed. The following speeds can be selected: 1200, 2400, 4800, 9600, or 19200.



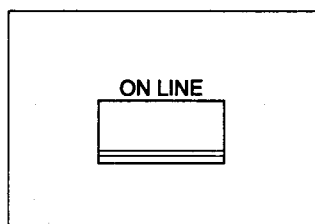
1. Set the printer off-line. Then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the BAUD RATE screen is shown.

BAUD RATE=9600 *



2. Use the cursor keys to select the baud rate you want to use. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

BAUD RATE=19200 *

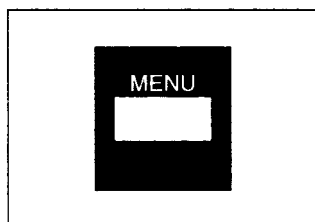


3. Press ON LINE to return the printer to on-line.

Handshake

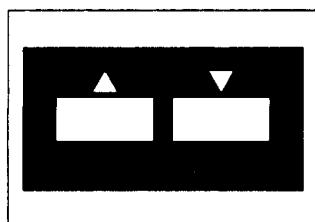
The handshake is the protocol used to establish communication between the computer and printer. Robust handshake protocol provides XON control, while XON refers to XON/XOFF control. Select H/W for DTR signal control.

You can select the following types of handshake protocol: **ROBUST**, XON, or H/W.



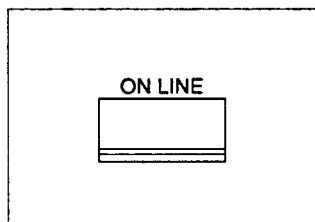
1. Set the printer off-line. Then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the HANDSHK screen is shown.

HAND SHK=ROBUST *



2. Use the cursor keys to select a type of handshake. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

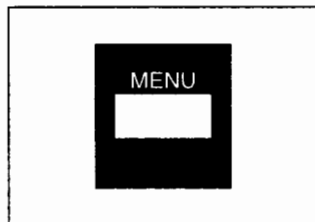
HAND SHK=XON *



3. Press ON LINE to return the printer to on-line.

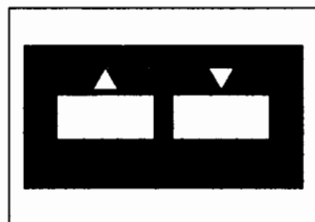
DTR polarity

DTR polarity is used only for the RS-232C interface. The setting may be either **HI** or **LO**.



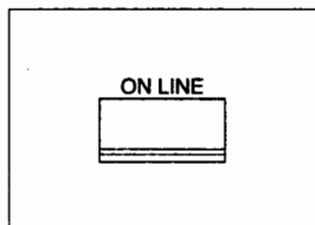
1. Set the printer off-line. Then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the DTR POLARITY screen is shown.

DTR POLARITY=HI *



2. Use the cursor keys to select the DTR polarity. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

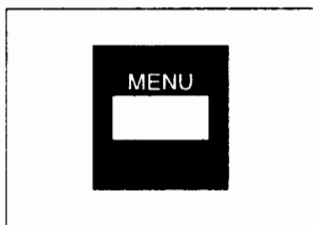
DTR POLARITY=LO *



3. Press ON LINE to return the printer to on-line.

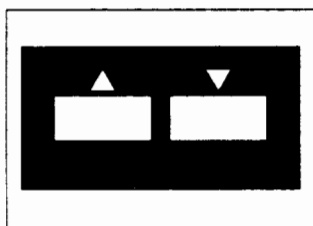
Data/stop

Data/stop sets the character length by establishing the length of the start and stop bits. Any of the following combinations can be selected: 7/1, 7/2, 8/1, or 8/2.



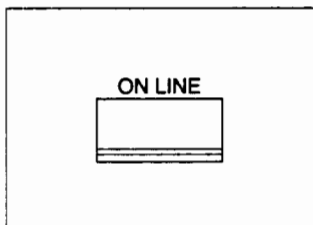
1. Set the printer off-line. Then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the DATA/STOP screen is shown.

DATA/STOP=8/1 *



2. Use the cursor keys to select the length of the start and stop bits. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

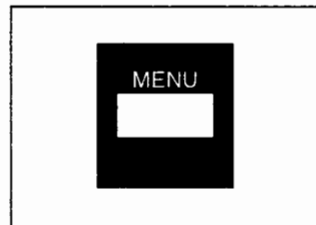
DATA/STOP=7/1 *



3. Press ON LINE to return the printer to on-line.

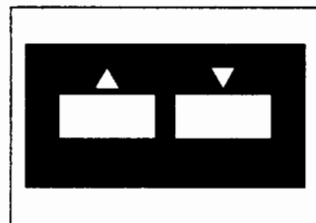
Parity

Parity selects the parity bit. This may be **NONE**, **ODD**, or **EVEN**.



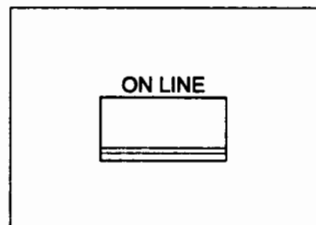
1. Set the printer off-line. Then hold down the MENU key a few seconds to access the configuration menu selections. Press MENU again until the PARITY screen is shown.

PARITY=NONE *



2. Use the cursor keys to select the type of parity, if any, that you want to use. Press ENTER to register your selection. An asterisk is shown in the LCD next to the option you selected.

PARITY=ODD *



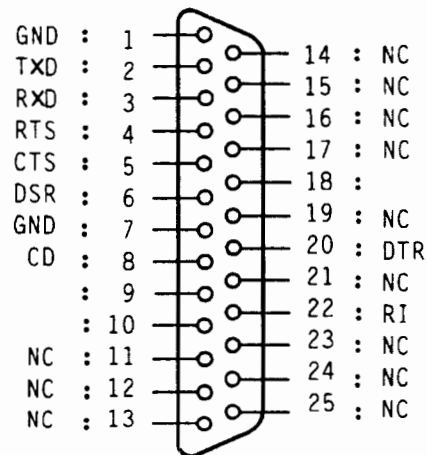
3. Press ON LINE to return the printer to on-line.

Serial interface specifications

The pin assignments for the RS232C serial interface are shown below.

Serial (RS232C)

SIGNAL DESIGNATION	PIN No.	PIN No.	SIGNAL DESIGNATION
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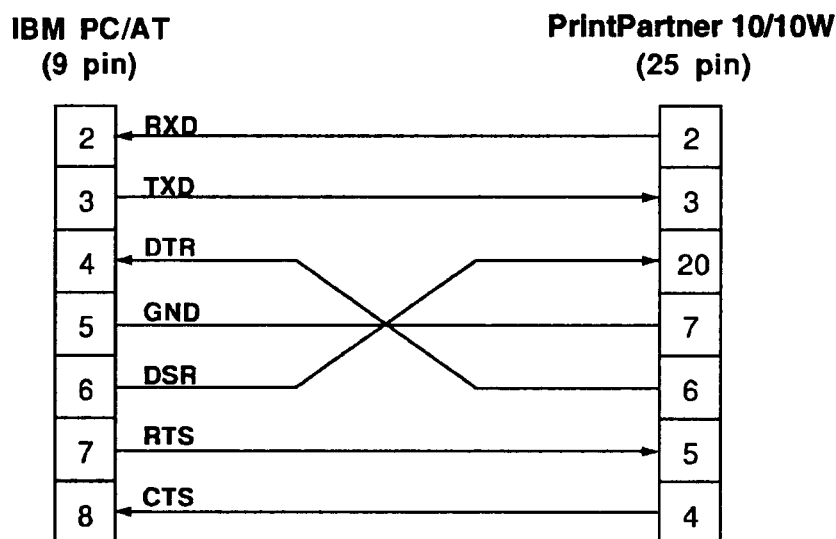
TXD: Transmit data
 RXD: Receive data
 RTS: Request to send
 CTS: Clear to send
 DSR: Data set ready
 GND: Signal ground
 CD : Carrier detect
 DTR: Data terminal ready
 RI : Ring Indicator

**Serial interface
(RS-232C)**

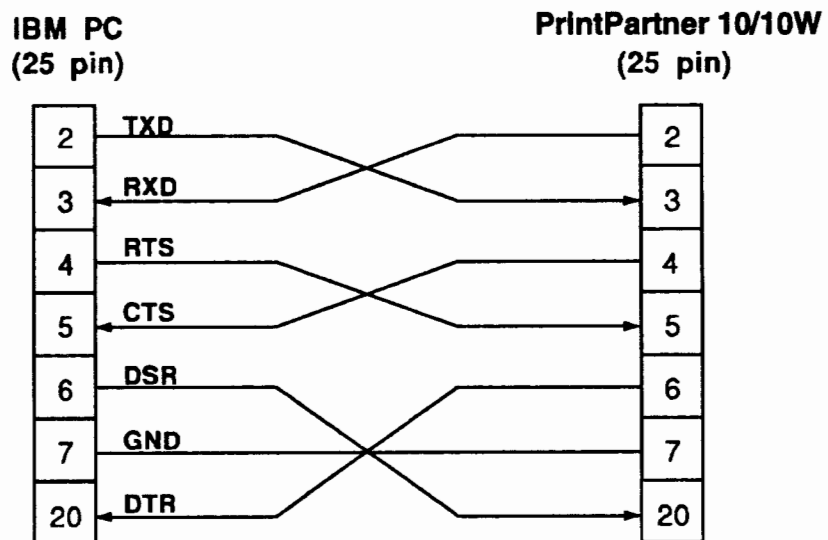
The printer serial interface is equipped with a 25-pin female connector that conforms to the RS-232C standard. The serial interface of the IBM PC/AT is equipped with a 9-pin male connector that requires a special cable. This type of cable is generally available from computer dealers. Show your dealer the table indicating the pin assignment of the printer's serial interface connector to be sure you are getting the right cable.

**Connector
assignments**

Use the following connector assignments when connecting to an IBM PC/AT (or compatible unit).



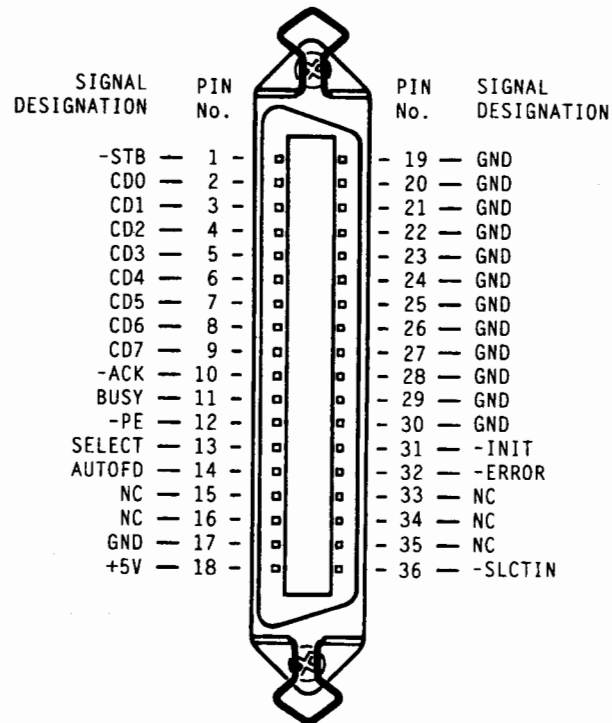
Use the following connector assignments when connecting to an IBM PC (or compatible unit).



Parallel interface specifications

Use the following pin assignments when using the Centronics parallel interface.

Parallel (Centronics)

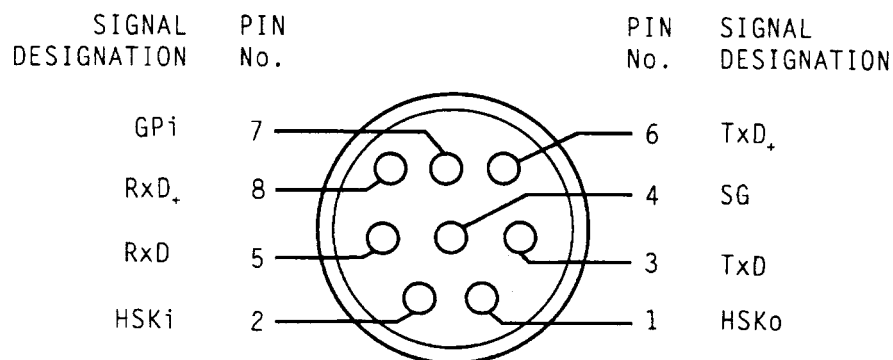


-STB : -Strobe
 CD : Centronics data
 -ACK : Acknowledge
 BUSY : Busy
 -PE : -Paper empty
 SELECT : Select
 AUTOFD : Auto feed
 -INIT : -Initialize
 -ERROR : -Error
 -SLCTIN: -Select Input

AppleTalk^{*} interface specifications

Use the following pin assignments when using the AppleTalk interface.

AppleTalk



HSKo: Handshake output
 HSKi: Handshake input
 TxD-: Transmit data-
 SG : Signal ground
 RxD-: Receive data-
 TxD+: Transmit data+
 GPI : General purpose input
 RxD+: Receive data+

* The AppleTalk interface is operational only when the TrueImage Board is installed in the PrintPartner 10/10W.

TrueImage print menu

The following list shows the TrueImage print menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

COPIES 01-99 (01)
 CASSETTE BOTH, UPPER, LOWER
 PAPER LETTER, LEGAL, A4, EXEC, B5 (COM10, MONARC, DL, C5)
 MANUAL FEED OFF, ON

IBM print menu

The following list shows the IBM print menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

COPIES 01-99 (01)
 CASSETTE BOTH, UPPER, LOWER/UPPER, TF ALL, TF 1-7
 PAPER TYPE Q-7
 PAPER LETTER, LEGAL, A4, EXEC, B5 (COM10, MONARC, DL, C5)
 ORIENTATION P, L
 AGM OFF, ON
 SYM SET MULTI, USA
 CHR SET 1, 2, ALL
 MANUAL FEED OFF, ON

Epson print menu The following list shows the Epson print menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

COPIES	01-99 (<u>01</u>)
PITCH	<u>10</u> , 12, 17, 20, PS
CASSETTE	<u>BOTH</u> , UPPER, LOWER/UPPER, <u>TF ALL</u> , TF 1-7
PAPER TYPE	<u>0</u> -7
PAPER	<u>LETTER</u> , LEGAL, A4, EXEC, B5 (COM10, MONARC, DL, C5)
ORIENTATION	<u>P</u> , L
MANUAL FEED	<u>OFF</u> , ON

Configuration Menus

You can access the configuration menu by setting the printer off-line. Press the ON LINE key, then press the MENU key continuously for two seconds. The configuration menus available for each emulation are summarized here.

HPLJ3 configuration menu

The following list shows the HPLJ3 configuration menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

EMU	<u>HPLJ3</u> , TRUEIMAGE, IBM PRO, EPSON FX
EMU SWITCH	OFF, <u>ON1</u> , ON2
AUTO CONT	OFF, <u>ON</u>
I/O	<u>AUTO</u> , PARALLEL, SERIAL
WAIT	<u>5SEC</u> , 30SEC, 1MIN, 2MIN, 3MIN, INFINITE
SERIAL	<u>RS232</u>
BAUD RATE	1200, 2400, 4800, <u>9600</u> , 19200
HAND SHK	<u>ROBUST</u> , XON, H/W
DTR POLARITY	<u>HI</u> , LO
DATA/STOP	<u>8/1</u> , 7/1, 8/2, 7/2
PARITY	<u>NONE</u> , EVEN, ODD
FINE ART	OFF, DARK, <u>MEDIUM</u> , LIGHT
FULL BITMAP	<u>OFF</u> , LTR, A4, LGL
PRINT PREV	<u>OFF</u> , ON
RETENTION	<u>OFF</u> , ON
IMG REVERSE	<u>OFF</u> , ON
X SHIFT	-10PT. - +10PT. (<u>00PT</u>)
Y SHIFT	-10PT. - +10PT. (<u>00PT</u>)
LANGUAGE	<u>ENGL</u> , GERM, FREN, ITAL, SPAN
TOWERFEED	<u>OFF</u> , ON
TOTAL	##### (total print count)
HEX DUMP	<u>OFF</u> , ON

**TrueImage
configuration
menu**

The following list shows the TrueImage configuration menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

EMU	HPLJ3, <u>TRUEIMAGE</u> , IBM PRO, EPSON FX
EMU SWITCH	OFF, <u>ON</u>
AUTO CONT	OFF, <u>ON1</u> , ON2
I/O	<u>AUTO</u> , PARALLEL, SERIAL, APPLETALK
SERIAL	<u>RS232</u>
BAUD RATE	1200, 2400, 4800, <u>9600</u> , 19200
HAND SHK	<u>ROBUST</u> , XON, H/W
DTR POLARITY	<u>HI</u> , LO
DATA/STOP	<u>8/1</u> , 7/1, 8/2, 7/2
PARITY	<u>NONE</u> , EVEN, ODD
START PAGE	<u>OFF</u> , ON
JAM RECOVER	<u>OFF</u> , ON
FINE ART	OFF, DARK, <u>MEDIUM</u> , LIGHT
FULL BITMAP	<u>OFF</u> , LTR, A4, LGL
PRINT PREV	<u>OFF</u> , ON
RETENTION	<u>OFF</u> , ON
IMG REVERSE	<u>OFF</u> , ON
X SHIFT	-10PT. - +10PT. (<u>00PT</u>)
Y SHIFT	-10PT. - +10PT. (<u>00PT</u>)
PRT TIERR	<u>OFF</u> , ON
PAGE BUFFER	<u>1</u> , 2
LANGUAGE	<u>ENGL</u> , GERM, FREN, ITAL, SPAN
TOTAL	##### (total print count)

IBM configuration menu The following list shows the IBM configuration menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

EMU	HPLJ3, TRUEIMAGE, <u>IBM PRO</u> , EPSON FX
EMU SWITCH	OFF, <u>ON1</u> , ON2
AUTO CONT	OFF, <u>ON</u>
I/O	<u>AUTO</u> , PARALLEL, SERIAL
SERIAL	<u>RS232</u>
BAUD RATE	1200, 2400, 4800, <u>9600</u> , 19200
HAND SHK	<u>ROBUST</u> , XON, H/W
DTR POLARITY	<u>HI</u> , LO
DATA/STOP	<u>8/1</u> , 7/1, 8/2, 7/2
PARITY	<u>NONE</u> , EVEN, ODD
FINE ART	OFF, DARK, <u>MEDIUM</u> , LIGHT
FULL BITMAP	<u>OFF</u> , LTR, A4, LGL
PRINT PREV	<u>OFF</u> , ON
RETENTION	<u>OFF</u> , ON
IMG REVERSE	<u>OFF</u> , ON
X SHIFT	-10PT. - +10PT. (<u>00PT</u>)
Y SHIFT	-10PT. - +10PT. (<u>00PT</u>)
LANGUAGE	<u>ENGL</u> , GERM, FREN, ITAL, SPAN
TOWERFEED	<u>OFF</u> , ON
TOTAL	##### (total print count)
HEX DUMP	<u>OFF</u> , ON

**Epson
configuration
menu**

The following list shows the Epson configuration menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

EMU	HPLJ3, TRUEIMAGE, IBM PRO, <u>EPSON FX</u>
EMU SWITCH	OFF, <u>ON1</u> , ON2
AUTO CONT	OFF, <u>ON</u>
I/O	<u>AUTO</u> , PARALLEL, SERIAL
SERIAL	<u>RS232</u>
BAUD RATE	1200, 2400, 4800, <u>9600</u> , 19200
HAND SHK	<u>ROBUST</u> , XON, H/W
DTR POLARITY	<u>HI</u> , LO
DATA/STOP	<u>8/1</u> , 7/1, 8/2, 7/2
PARITY	<u>NONE</u> , EVEN, ODD
FINE ART	OFF, DARK, <u>MEDIUM</u> , LIGHT
FULL BITMAP	<u>OFF</u> , LTR, A4, LGL
PRINT PREV	<u>OFF</u> , ON
RETENTION	<u>OFF</u> , ON
IMG REVERSE	<u>OFF</u> , ON
X SHIFT	-10PT. - +10PT. (<u>00PT</u>)
Y SHIFT	-10PT. - +10PT. (<u>00PT</u>)
LANGUAGE	<u>ENGL</u> , GERM, FREN, ITAL, SPAN
TOWERFEED	<u>OFF</u> , ON
TOTAL	##### (total print count)
HEX DUMP	<u>OFF</u> , ON

**Epson
configuration
menu**

The following list shows the Epson configuration menu selections. Further details on the selections available in this menu are provided in the chapter *Menu Selections*.

EMU	HPLJ3, TRUEIMAGE, IBM PRO, <u>EPSON EX</u>
EMU SWITCH	OFF, <u>ON1</u> , ON2
AUTO CONT	OFF, <u>ON</u>
I/O	<u>AUTO</u> , PARALLEL, SERIAL
SERIAL	<u>RS232</u>
BAUD RATE	1200, 2400, 4800, <u>9600</u> , 19200
HAND SHK	<u>ROBUST</u> , XON, H/W
DTR POLARITY	<u>HI</u> , LO
DATA/STOP	<u>8/1</u> , 7/1, 8/2, 7/2
PARITY	<u>NONE</u> , EVEN, ODD
FINE ART	OFF, DARK, <u>MEDIUM</u> , LIGHT
FULL BITMAP	<u>OFF</u> , LTR, A4, LGL
PRINT PREV	<u>OFF</u> , ON
RETENTION	<u>OFF</u> , ON
IMG REVERSE	<u>OFF</u> , ON
X SHIFT	-10PT. - +10PT. (<u>00PT</u>)
Y SHIFT	-10PT. - +10PT. (<u>00PT</u>)
LANGUAGE	<u>ENGL</u> , GERM, FREN, ITAL, SPAN
TOWERFEED	<u>OFF</u> , ON
TOTAL	##### (total print count)
HEX DUMP	<u>OFF</u> , ON

Chapter **8**

Command Lists

HPLJ3 Commands

— Set-up Commands —

Command Name	Syntax
Reset	SEC E
Select number of copies	ESC&l#X (#=1-99)
Paper source	ESC&l#H (#=0-3)

— Page Definition Commands —

Command Name	Syntax
Page size	ESC&l#A (#1, 23, 26, 80, 81, 90, 91)
Page length	ESC&l#P (#=no. of lines)
Left offset registration	ESC&l#U (#=no. of decipoints)
Top offset registration	ESC&l#Z (#=no. of decipoints)
Logical page orientation	ESC&l#O (#=0-3)

— Setting Line Spacing and Margins —

Command Name	Syntax
Set HMI	ESC&k#H (#=0-32767)
Set VMI	ESC&l#C (#=0-32767)
Set line spacing	ESC&l#D (#=1-4, 6, 8, 12, 16, 24, 48)
Left margin	ESC&a#L (#=no. of columns)
Right margin	ESC&a#M (#=no. of columns)
Clear horizontal margins	ESC9
Top margin	ESC&l#E (#=no. of rows)
Text length	ESC&l#F (#=no. of lines)
Perforation skip	ESC&l#L (#=0, 1)

— Printer Output Control Commands —

Command Name	Syntax
Print direction	ESC&a#P (#=0, 90, 180, 270)
Line termination	ESC&k#G (#=0-3)
End of line wrap	ESC&s#C (#=0, 1)
Display functions on	ESC Y
Display functions off	ESC Z

— Cursor Positioning Commands —

Command Name	Syntax
Space	SP
Carriage return	CR
Line feed	LF
Form feed	FF
Backspace	BS
Horizontal tab	HT
Horizontal cursor position (columns)	ESC&a#C (#=no. of columns)
Horizontal cursor position (dots)	ESC*p#X (#=no. of dots)
Horizontal cursor position (decipoints)	ESC&a#H (#=no. of decipoints)
Vertical cursor position (rows)	ESC&a#R (#=no. of rows)
Vertical cursor position (dots)	ESC*p#Y (#=no. of dots)
Vertical cursor position (decipoints)	ESC&a#V (#=no. of decipoints)
Half line feed	ESC =
Push/pop cursor position	ESC&f#S (#=0, 1)

— Primary and Secondary Font Commands —

Command Name	Syntax
Select primary font	SI
Select secondary font	SO
Set primary font to default values	ESC(3@
Set secondary font to default values	ESC)3@
Set primary font symbol set	ESC(ID
Set secondary font symbol set	ESC)ID
Select primary font spacing type	ESC(s#P (#=0, 1)
Select secondary font spacing type	ESC)s#P (#=0, 1)
Set primary font pitch	ESC(s#H (#=no. of cpi)
Set secondary font pitch	ESC)s#H (#=no. of cpi)
Set primary font height	ESC(s#V (#=size in points)
Set secondary font height	ESC)s#V (#=size in points)
Select primary font style	ESC(s#S (#=0, 1, 4, 5, 8, 24, 32, 64, 128, 160)
Select secondary font style	ESC)s#S (#=0, 1, 4, 5, 8, 24, 32, 64, 128, 160)
Select primary font stroke weight	ESC(s#B (#=-7+7)
Select secondary font stroke weight	ESC)s#B (#=-7+7)
Select primary font typeface	ESC(s#T (#=5, 47, 52, 128, 130, 4101, 4143, 4148)
Select secondary font typeface	ESC)s#T (#=5, 47, 52, 128, 130, 4101, 4143, 4148)
Select primary font by ID number	ESC(s#X (#=ID no.)
Select secondary font by ID number	ESC)s#X (#=ID no.)
Turn underlining on	ESC&d#D (#=1, 3)
Turn underlining off	ESC&D@
Transparent print data	ESC&p#X <characters> (#=no. of bytes)

— Downloadable Font Commands —

Command Name	Syntax
Font ID	ESC*c#D (#=font no.)
Font control	ESC*c#F (#=0-6)
Send font descriptor	ESC)s#W <data> (#=no. of bytes)
Send character code	ESC*c#E (#=character code)
Send character code and data	ESC(s#W <descriptor and data> (#=0-32767)

— Using Macros —

Command Name	Syntax
Macro ID	ESC&f#Y (#=0-32767)
Start macro definition	ESC&f0X
End macro definition	ESC&f1X
Execute macro	ESC&f2X
Call macro	ESC&f3X
Enable macro for overlay	ESC&f4X
Disable overlaid macro	ESC&f5X
Make macro temporary	ESC&f9X
Make macro permanent	ESC&f10X
Delete macro	ESC&f8X
Delete all temporary macros	ESC&f7X
Delete all macros	ESC&f6

— Using Graphics —

Command Name	Syntax
Set source transparency	ESC*v#N (#=0, 1)
Set pattern transparency	ESC*v#O (#=0, 1)
Set area fill identity	ESC*c#G (#=1-100)
Set pattern type	ESC*v#T (#=1-3, 130)
Set rectangle width in dots	ESC*c#A (#=no. of dots)
Set rectangle width in decipoints	ESC*c#H (#=no. of decipoints)
Set rectangle height in dots	ESC*c#B (#=no. of dots)
Set rectangle height in decipoints	ESC*c#V (#=no. of decipoints)
Fill rectangular area	ESC*c#P (#=0-3, 5, 130)
Set raster resolution	ESC*t#R (#=75, 100, 150, 300)
Set raster image orientation	ESC*r#F (#=0, 3)
Set raster area height	ESC*r#T (#=no. of raster rows)
Set raster area width	ESC*r#S (#=no. of dots)
Set raster y-offset	ESC*b#Y (#=0-32767)
Set compression mode	ESC*b#M (#=0-3)
Start raster transfer	ESC*r#A (#=0, 1)
Transfer raster data	ESC*b#W <data> (#=no. of bytes)
End raster transfer	ESC*rB

TrueImage and PostScript Operators

— Operand Stack Operators —

Operator	Function
pop	Discard top element
exch	Exchange top 2 elements
dup	Duplicate top element
copy	Copy top <i>n</i> elements
index	Duplicate arbitrary element
roll	Roll <i>n</i> elements up <i>j</i> times
clear	Discard all elements
count	Count elements on stack
mark	Push mark on stack
cleartomark	Discard elements down through mark
counttomark	Count elements down to mark
exec	Pop file or string of data off stack

— Arithmetic and Math Operators —

Operator	Function
add	Add <i>num</i> ₁ and <i>num</i> ₂
div	Divide <i>num</i> ₁ by <i>num</i> ₂
idiv	Division of integers
mod	<i>int</i> ₁ modulo <i>int</i> ₂
mul	Multiply <i>num</i> ₁ and <i>num</i> ₂
sub	Subtract <i>num</i> ₂ from <i>num</i> ₁
abs	Absolute value of <i>num</i> ₁
neg	Negative of <i>num</i> ₁
ceiling	Ceiling of <i>num</i> ₁
floor	Floor of <i>num</i> ₁
round	Round <i>num</i> ₁ to nearest integer
truncate	Remove fractional part of <i>num</i> ₁
sqrt	Square root of <i>num</i>
atan	Arctangent of <i>num</i> / <i>den</i> in degrees
cos	Cosine of angle (in degrees)
sin	Sine of angle (in degrees)
exp	Raise base to power of exponent
ln	Natural logarithm (base e)
log	Logarithm (base 10)
rand	Generate pseudo-random integer
srand	Set random number seed
rrand	Return random number seed

— Character and Font Operators —

Operator	Function
definefont	Register font as font dictionary
findfont	Return font dictionary indicated by <i>key</i>
scalefont	Scale font size to form new font
makefont	Use matrix to form new font
setfont	Set font dictionary
currentfont	Return current font dictionary
show	Print <i>string</i> of characters
ashow	Add <i>ax</i> , <i>ay</i> to each character when showing <i>string</i>
widthshow	Add <i>cx</i> , <i>cy</i> to character width when showing <i>string</i>
awidthshow	Combine effects of <i>ashow</i> and <i>awidthshow</i>
kshow	Execute kerning procedure between characters
stringwidth	Width of <i>string</i> in current font
FontDirectory	Directory of font dictionaries
StandardEncoding	Standard font encoding vector
readsfnt	Access source of binary sfnt
setsfntencoding	Set up encoding array in <i>sfntdict</i>

— Font Cache Operators —

Operator	Function
cachestatus	Return cache status and parameters
setcachestatus	Distribute information on cached character width and bounding box
setcharwidth	Distribute information on uncached character width
setcachelimit	Set maximum number of bytes for cached character
setcacheparams	Set character cache parameters
currentcacheparams	Return current character cache parameters

— Device Set-up and Output Operators —

Operator	Function
showpage	Transmit current page to printer
copypage	Output single copy of current page on printer
nulldevice	Select null device as current output device

— Array Operators —

Operator	Function
array	Create array of length <i>int</i>
[	Mark start of array construction
]	Mark end of array construction
length	Number of elements in array
get	Get array elements indicated by index
put	Put any element into array at index
getinterval	Subarray starting at index for <i>n</i> elements
putinterval	Replace subarray of array 1 with array 2 starting at index
aload	Push all elements of array onto stack
astore	Pop elements from stack into array
copy	Copy elements of array 1 to initial subarray of array 2
forall	Execute procedure for each element of array

— Packed Array Operators —

Operator	Function
packedarray	Create packed array of <i>n</i> elements
currentpacking	Return array packing mode
setpacking	Set current array packing mode
length	Number of elements in packedarray
get	Get packedarray element indicated by index
getinterval	Subarray of packedarray starting at index for <i>n</i> elements
aload	Push all elements of packedarray onto stack
copy	Copy elements of packedarray 1 to initial subarray of array 2
forall	Execute procedure for each element of packedarray

— Dictionary Operators —

Operator	Function
dict	Create dictionary with capacity of <i>int</i> number of elements
length	Number of <i>key-value</i> pairs in dictionary
maxlength	Capacity of dictionary
begin	Push <i>dict</i> onto stack
end	Pop <i>dict</i> from stack
def	Associate <i>key</i> and <i>value</i> in <i>dict</i>
load	Search <i>dict</i> for <i>key</i> , return associated <i>value</i>
store	Replace topmost definition of <i>key</i>
get	Get <i>value</i> associated with <i>key</i> in <i>dict</i>
put	Associate <i>key</i> with <i>value</i> in <i>dict</i>
known	Test whether <i>key</i> is in <i>dict</i>
where	Find <i>dict</i> containing <i>key</i> definition
copy	Copy contents of <i>dict1</i> to <i>dict2</i>
forall	Execute procedure for each element of <i>dict</i>
errordict	Push <i>errordict</i> on operand stack
systemdict	Push <i>systemdict</i> on operand stack
userdict	Push <i>userdict</i> on operand stack
currentdict	Push current <i>dict</i> on operand stack
countdictstack	Count elements on <i>dict</i> stack
dictstack	Copy <i>dict</i> stack into array

— String Operators —

Operator	Function
string	Create <i>string</i> of <i>int</i> length
length	Number of elements in <i>string</i>
get	Get <i>string</i> element indicated by index
put	Put <i>int</i> into <i>string</i> at index
getinterval	Substring of <i>string</i> for <i>n</i> elements starting at index
putinterval	Replace substring of <i>string</i> 1 with <i>string</i> 2 starting at index
copy	Copy elements of <i>string</i> 1 to initial substring of <i>string</i> 2
forall	Execute procedure for each element of <i>string</i>
anchorsearch	Determine if seek is in initial substring of <i>string</i>
search	Search for seek in <i>string</i>
token	Read token from start of <i>string</i>

— Relational, Boolean, and Bitwise Operators —

Operator	Function
eq	Test equality
ne	Test inequality
ge	Test greater than or equal
gt	Test greater than
le	Test less than or equal
lt	Test less than
and	Logical/bitwise and
not	Logical/bitwise not
or	Logical/bitwise or
xor	Logical/bitwise exclusive or
true	Push boolean <i>value</i> true
false	Push boolean <i>value</i> false
bitshift	Bitwise shift of <i>int</i> ₁ (left is positive)

— Control Operators —

Operator	Function
exec	Execute arbitrary object
if	Execute procedure if bool is true
ifelse	Execute proc1 if bool is true, proc2 if bool is false
for	Execute procedure with <i>values</i> from <i>init</i> by steps of <i>incr</i> to limit
repeat	Execute procedure <i>int</i> times
loop	Execute procedure an indefinite number of times
exit	Exit innermost active loop
stop	Terminate stopped context
stopped	Establish context for catching stop
countexecstack	Count elements on exec stack
execstack	Copy exec stack into array
quit	Terminate interpreter
start	Execute interpreter startup

— Type, Attribute, and Conversion Operators —

Operator	Function
type	Return name identifying type
cvlt	Make object literal
cvx	Make object executable
xcheck	Test executable attribute
executeonly	Change to execute-only access
noaccess	Deny any access
readonly	Change to read-only access
rcheck	Test read check
wcheck	Test write check
cvi	Convert to integer
cvn	Convert to name
cvr	Convert to real
cvrs	Convert to <i>string</i> with radix
cvs	Convert to <i>string</i>

— File Operators —

Operator	Function
file	Use <i>string2</i> to open file identified by <i>string1</i>
closefile	Close file
read	Read one character from file
write	Write one character to file
readhexstring	Read hexadecimal data from file to <i>string</i>
writehexstring	Write <i>string</i> to file as hexadecimal data
readstring	Read <i>string</i> from file
writestring	Write <i>string</i> to file
readline	Read line from file into <i>string</i>
token	Read token from file
bytesavailable	Number of bytes available to be read
flush	Send buffered data to standard output file
flushfile	Send buffered data or read to EOF
resetfile	Discard buffered characters
status	Return status of file
run	Execute contents of name file
currentfile	Return file currently being executed
print	Write <i>string</i> to standard output file
=	Write text representation to standard output file
stack	Use = to print stack non-destructively
==	Write syntactic representation to standard output file
pstack	Use == to print stack non-destructively
prompt	Executed when ready for interactive input
echo	Turn echo on/off

— Virtual Memory Operators —

Operator	Function
save	Create VM snapshot
restore	Restore VM snapshot
vmstatus	Report VM status

— Miscellaneous Operators —

Operator	Function
bind	Replace names with operators in procedure
null	Push null on operand stack
usertime	Return time in milliseconds
version	Report interpreter version

— Graphics State Operators —

Operator	Function
gsave	Save graphics state
grestore	Restore graphics state
grestoreall	Restore to bottom-most graphics state
initgraphics	Reset graphics state parameters
setlinewidth	Set width of line
currentlinewidth	Return current line width
setlinecap	Set shape at line endings for stroke
currentlinecap	Return current line cap
setlinejoin	Set shape of corners for stroke
currentlinejoin	Return current line join
setmiterlimit	Set miter length limit
currentmiterlimit	Return current miter limit
setdash	Set dash pattern for strokes
currentdash	Return current dash pattern
setflat	Set flatness tolerance
currentflat	Return current flatness tolerance
setgray	Set gray value between 0 (black) and 1 (white)
currentgray	Return current gray value
sethsbcolor	Set hue, saturation, and brightness
currenthsbcolor	Return current hue, saturation, and brightness
setrgbcolor	Set red, green, blue colors
currentrgbcolor	Return current red, green, blue colors
setscreen	Set halftone screen
currentscreen	Return current halftone screen
settransfer	Set gray transfer function
currenttransfer	Return current transfer function

— Painting Operators —

Operator	Function
erasepage	Paint current page white
fill	Fill current path with current color
eofill	Fill using even-odd rule
stroke	Draw line along current path
image	Render sampled image onto current page
imagemask	Render mask onto current page

— Coordinate System and Matrix Operators —

Operator	Function
matrix	Create identity matrix
initmatrix	Set CTM to device default
identmatrix	Fill matrix with identity transform
defaultmatrix	Fill matrix with device default matrix
currentmatrix	Fill matrix with CTM
setmatrix	Replace CTM by matrix
translate	Translate user space by tx , ty
translate (matrix)	Define translation by tx , ty
scale	Scale user space by sx , sy
scale (matrix)	Define scaling by sx , sy
rotate	Rotate user space by angle (degrees)
rotate (matrix)	Define rotation by angle (degrees)
concat	Replace CTM by matrix X CTM
concatmatrix	Fill matrix ₃ with matrix ₁ X matrix ₂
transform	Transform x , y by CTM
transform (matrix)	Transform x , y by matrix
dtransform	Transform distance dx , dy by CTM
dtransform (matrix)	Transform distance dx , dy by matrix
itransform	Inverse transform x' , y' by CTM
itransform (matrix)	Inverse transform x' , y' by matrix
idtransform	Inverse transform distance dx' , dy' by CTM
idtransform (matrix)	Inverse transform dx' , dy' by matrix
invertmatrix	Fill matrix ₂ with inverse of matrix ₁

— Path Construction Operators —

Operator	Function
newpath	Initialize current path to be empty
currentpoint	Return current point coordinate
moveto	Set current point to x, y
removeto	Relative moveto
lineto	Append straight line to x, y
rlineto	Relative lineto
arc	Append counterclockwise arc
arcn	Append clockwise arc
arcto	Append tangent arc
curveto	Append Bezier cubic section
rcurveto	Relative curveto
closepath	Connect subpath back to starting point
flattenpath	Convert curves to sequences of straight lines
reversepath	Reverse direction of current path
strokepath	Compute outline of stroked path
charpath	Append character outline to current path
clippath	Set current path to clipping path
pathbbox	Return bounding box of current path
pathforall	Enumerate current path
initclip	Set clip path to device default
clip	Establish new clipping path
eoclip	Clip using even-odd inside rule

— Errors —

	Operator	Function
1	dictfull	No more room in dictionary
2	dictstackoverflow	Too many begins
3	dictstackunderflow	Too many ends
4	execstackoverflow	Exec nesting too deep
5	handleerror	Called to report error information
6	interrupt	External interrupt request (^C, etc)
7	invalidaccess	Attempt to violate access attribute
8	invalidexit	Exit not in loop
9	invalidfileaccess	Unacceptable access <i>string</i>
10	invalidfont	Invalid font name or <i>dict</i>
11	invalidrestore	Improper restore
12	ioerror	Input/output error
13	limitcheck	Implementation limit is exceeded
14	nocurrentpoint	Current point is undefined
15	rangecheck	Operand out of bounds
16	stackoverflow	Operand stack overflow
17	stackunderflow	Operand stack underflow
18	syntaxerror	Program syntax error
19	timeout	Time limit exceeded
20	typecheck	Wrong type of operand
21	undefined	Name not known
22	undefinedfilename	File not found
23	undefinedresult	Over/underflow or meaningless result
24	unmatchedmark	Expected mark not on stack
25	unregistered	Internal error
26	VMerror	VM exhausted

— Persistent Parameter Operators —

Operator	Function
pagecount	Return number of pages printed
pagestackorder	Returns boolean to indicate page stacking order
setprintrname	Enter printer name
printrname	Register printer name
setccbatch	Set parity and baud rate for serial interface
sccbatch	Return parity and baud rate for serial interface
setccinteractive	Set parameters for interactive mode
sccinteractive	Return parity and baud rate for interactive mode
setdostartpage	Select/cancel start page
dostartpage	Return start page status
setmargins	Set alignment of imageable area on page
margins	Return values for top and left margins
setpagetype	Set default page type parameter
pagetype	Return default setting for page type parameter
setdefaulttimeouts	Set default values for timeouts
defaulttimeouts	Return default values for timeouts
setpassword	Set system administrator password
checkpassword	Check of system administrator password
setidlefonts	Set fonts used as idle time fonts
idlefonts	Return integers controlling idle time scan conversions
seteescratch	Set value in EEPROM scratch array
eescratch	Return value in EEPROM scratch array

— Volatile Parameter Operators —

Operator	Function
setjobtimeout	Set length of timeout for current job
jobtimeout	Return integer indicating time until job timeout
manualfeedtimeout	Return integer indicating length of current manual feed timeout
waittimeout	Return integer indicating length of current wait timeout
manualfeed	Return boolean on selection of manual feeding
jobname	Return name of printing job
printererror	Report a printing error
product	Return name of printer
revision	Return current revision of interpreter

IBM ProPrinter XL24E Commands

— Control Codes —

Command Name	Syntax
Null	NUL
Bell	BEL
Space	SP
Backspace	BS
Carriage return	CR
Line feed	LF
Form feed	FF
Horizontal tab	HT
Vertical tab	VT
Select double-width printing (1 line)	SO
Select condensed mode	SI
Set character pitch to 10cpi	DC2
Cancel double-width mode	DC4
Enable printer	DC1
Cancel line	CAN
Escape	ESC

— Printer Control Codes —

Command Name	Syntax
Set initial conditions	ESC [K $n_1 n_2 \text{int}(id \text{ parm}_1)$
Deselect printer	ESC Q n ($n=3, 22$)
Automatic line feed	ESC 5 n ($n=0, 1$)
Stop printing	ESC j

— Page Set-up Commands —

Command Name	Syntax
Set page length (lines)	ESC C n ($n=1-255$)
Set page length (inches)	ESC C NUL n ($n=1-14$)
Set top margin	ESC 4
Set perforation margin	ESC N n ($n=1-255$)
Cancel perforation margin	ESC O
Set horizontal margins	ESC X

— Setting Line Spacing and Tabs —

Command Name	Syntax
Select 1/8" line spacing	ESC 0
Select 7/72" line spacing	ESC 1
Store n/72" line spacing setting	ESC A n (n=1-85)
Enable n/72" line spacing setting	ESC 2
Set n/216" line spacing setting	ESC 3 n (n=1-255)
Set horizontal tab stops	ESC D n ₁ n ₂ n ₃ ...NUL
Set vertical tab stops	ESC B n ₁ n ₂ n ₃ ...NUL
Restore default tab stops	ESC R

— Cursor Positioning Commands —

Command Name	Syntax
Relative forward move	ESC d n ₁ n ₂
Perform n/216" line feed	ESC J n (n=1-255)

— Character Handling Commands —

Command Name	Syntax
Select pitch and font	ESC I n (n=0, 2, 4, 6)
Set character pitch to 12cpi	ESC :
Select/cancel proportional spacing	ESC P n (n=0, 1)
Select/cancel double-width printing	ESC W n (n=0, 1)
Select emphasized character mode	ESC E
Cancel emphasized character mode	ESC F
Select double-strike mode	ESC G
Cancel double-strike mode	ESC H
Select superscript/subscript mode	ESC S n (n=0, 1)
Cancel superscript/subscript mode	ESC T
Select/cancel underline mode	ESC - n (n=0, 1)
Select/cancel overline mode	ESC _ n (n=0, 1)
Select double-height/double-width mode	ESC [@ n ₁ n ₂ m ₁ m ₂ m ₃ m ₄

— Character Set Commands

Command Name	Syntax
Select character set 1	ESC 7
Select character set 2	ESC 6
Print characters from All Character Table	ESC \ <i>n</i> ₁ <i>n</i> ₂ < <i>characters</i> >
Print one character from All Character Table	ESC ^ <i>c</i>
Select code page	ESC [T <i>cn</i> <i>ct</i> _h 00 <i>p</i> _h <i>p</i> _l

— Using Graphics —

Command Name	Syntax
Set graphics line spacing (AGM)	ESC 3 <i>n</i> (<i>n</i> =1-255)
Set text line spacing (AGM)	ESC A <i>n</i> (<i>n</i> =1-85)
Perform <i>n</i> /180° line feed (AGM)	ESC J <i>n</i> (<i>n</i> =1-255)
Set vertical units	ESC [\ <i>ct</i> _h <i>ct</i> _h <i>h</i> _h <i>g</i> _h
Select graphics mode	ESC * <i>m</i> _h ₁ <i>n</i> ₂ < <i>image</i> >
Select high-resolution graphics	ESC [g <i>n</i> ₁ <i>n</i> ₂ <i>m</i> < <i>image</i> >
Normal density image graphics	ESC K <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >
Double-density image graphics 1	ESC L <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >
Double-density image graphics 2	ESC Y <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >
High-density image graphics	ESC Z <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >

Epson FX-850 Commands

— Control Codes —

Command Name	Syntax
Null	NUL
Bell	BEL
Space	SP
Backspace	BS
Carriage return	CR
Line feed	LF
Form feed	FF
Horizontal tab	HT
Vertical tab	VT
Select expanded mode (1 line)	SO
Select compressed mode	SI
Cancel compressed mode	DC2
Cancel expanded mode	DC4
Enable printer	DC1
Disable printer	DC3
Cancel line	CAN
Delete character	DEL
Escape	ESC

— Set-up Commands —

Command Name	Syntax
Initialize printer	ESC @
Select page size	ESC [S $c_1(c_2)$
Select feeder	ESC [C c
Select page orientation	ESC [o c
Set page length (lines)	ESC C n ($n=1-127$)
Set page length (inches)	ESC C NUL n ($n=1-14$)
Set left margin	ESC l n ($n=no. of columns$)
Set right margin	ESC Q n ($n=no. of columns$)
Select justification mode	ESC a n ($n=0-3$)
Set perforation skip	ESC N n ($n=1-127$)
Cancel perforation skip	ESC O
Set inter-character space	ESC SP n ($n=0-127$)
Set data MSB to 0	ESC =
Set data MSB to 1	ESC >
Cancel MSB setting	ESC #
Print and eject a page	ESC EM R
Reset printer/change emulation mode	ESC [E c

— Setting Line Spacing and Tabs —

Command Name	Syntax
Select 1/8" line spacing	ESC 0
Select 7/72" line spacing	ESC 1
Select 1/6" line spacing	ESC 2
Select n/72" line spacing	ESC A n (n=1-85)
Select n/216" line spacing	ESC 3 n (n=1-255)
Set horizontal tab stops	ESC D n ₁ n ₂ n ₃ ...NUL
Set vertical tab stops	ESC B n ₁ n ₂ n ₃ ...NUL
Set vertical tab stops in channels	ESC b mn ₁ n ₂ n ₃ ...NUL
Select vertical tab channel	ESC / n (n=0-7)

— Cursor Positioning Commands —

Command Name	Syntax
Set absolute print position	ESC \$ n ₁ n ₂
Set relative print position	ESC \ n ₁ n ₂
Perform n/216" line feed	ESC J n (n=0-255)
Perform n/216" reverse line feed	ESC j n (n=0-255)

— Character Handling Commands —

Command Name	Syntax
Select pica pitch (10cpi)	ESC P
Select elite pitch (12cpi)	ESC M
Select/cancel proportional spacing	ESC p n (n=0, 1)
Select compressed character mode	ESC SI
Select/cancel expanded printing	ESC W n (n=0, 1)
Select expanded mode (1 line)	ESC SO
Select emphasized character mode	ESC E
Cancel emphasized character mode	ESC F
Select double-strike mode	ESC G
Cancel double-strike mode	ESC H
Select italic mode	ESC 4
Cancel italic mode	ESC 5
Select superscript/subscript mode	ESC S n (n=0, 1)
Cancel superscript/subscript mode	ESC T
Select/cancel double-height printing	ESC w n (n=0, 1)
Select/cancel underline mode	ESC - n (n=0, 1)
Master mode selection	ESC ! n (n=0, 1, 2, 4, 8, 16, 32, 64, 128)

— Character Set Commands —

Command Name	Syntax
Enable printable code area expansion	ESC 6
Cancel printable code area expansion	ESC 7
Printable code area expansion	ESC I <i>n</i> (<i>n</i> =0, 1)
Select an international character set	ESC R <i>n</i> (<i>n</i> =0-10, 13-20)
Select italic/Epson extended graphics character set	ESC t <i>n</i> (<i>n</i> =0, 1)

— Using Graphics —

Command Name	Syntax
Select image mode	ESC * <i>mn</i> ₁ <i>n</i> ₂ < <i>image</i> >
Reassign graphics mode	ESC ? <i>cm</i>
Print 9-bit image	ESC ^ <i>mn</i> ₁ <i>n</i> ₂
Select single-density image mode	ESC K <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >
Select double-density image mode	ESC L <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >
Select double-speed, double-density image mode	ESC Y <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >
Select quadruple-density image mode	ESC Z <i>n</i> ₁ <i>n</i> ₂ < <i>image</i> >

Chapter 9

Character sets

TruelImage Font List

Font Name	Print Sample	Printer Command
Courier	ABCDabcd1234!@#\$	/Courier
Courier Bold	ABCDabcd1234!@#\$	/Courier Bold
Courier Bold Oblique	<i>ABCDabcd1234!@#\$</i>	/Courier BoldOblique
Courier Oblique	<i>ABCDabcd1234!@#\$</i>	/Courier Oblique
Arial	ABCDabcd1234!@#\$	/Arial
Arial Bold	ABCDabcd1234!@#\$	/Arial Bold
Arial Bold Oblique	<i>ABCDabcd1234!@#\$</i>	/Arial Bold Oblique
Arial Oblique	<i>ABCDabcd1234!@#\$</i>	/Arial Oblique
Times New Roman	ABCDabcd1234!@#\$	/Times New Roman
Times New Roman Bold	ABCDabcd1234!@#\$	/Times New Roman Bold
Times New Roman Bold Italic	<i>ABCDabcd1234!@#\$</i>	/Times New Roman Bold Italic
Times New Roman Italic	<i>ABCDabcd1234!@#\$</i>	/Times New Roman Italic
Symbol	ABXΔαβχδ1234!@#£	/Symbol
Arial Narrow	ABCDabcd1234!@#\$	/Arial Narrow
Arial Narrow Bold	ABCDabcd1234!@#\$	/Arial Narrow Bold
Arial Narrow Bold Oblique	<i>ABCDabcd1234!@#\$</i>	/Arial Narrow Bold Oblique
Arial Narrow Oblique	<i>ABCDabcd1234!@#\$</i>	/Arial Narrow Oblique
Zapf Calligraphic Roman	ABCDabcd1234!@#\$	/Zapf Calligraphic Roman
Zapf Calligraphic Bold	ABCDabcd1234!@#\$	/Zapf Calligraphic Bold
Zapf Calligraphic Bold Italic	<i>ABCDabcd1234!@#\$</i>	/Zapf Calligraphic Bold Italic
Zapf Calligraphic Italic	<i>ABCDabcd1234!@#\$</i>	/Zapf Calligraphic Italic
Century Schoolbook Roman	ABCDabcd1234!@#\$	/Century Schoolbook Roman
Century Schoolbook Bold	ABCDabcd1234!@#\$	/Century Schoolbook Bold
Century Schoolbook Bold Italic	<i>ABCDabcd1234!@#\$</i>	/Century Schoolbook Bold Italic
Century Schoolbook Italic	<i>ABCDabcd1234!@#\$</i>	/Century Schoolbook Italic
ITC Avant Garde Gothic Book	ABCDabcd1234!@#\$	/ITC Avant Garde Gothic Book
ITC Avant Garde Gothic Demi	ABCDabcd1234!@#\$	/ITC Avant Garde Gothic Demi
ITC Avant Garde Gothic Demi Oblique	<i>ABCDabcd1234!@#\$</i>	/ITC Avant Garde Gothic Demi Oblique
ITC Avant Garde Gothic Book Oblique	<i>ABCDabcd1234!@#\$</i>	/ITC Avant Garde Gothic Book Oblique
ITC Bookman Light	ABCDabcd1234!@#\$	/ITC Bookman Light
ITC Bookman Demi	ABCDabcd1234!@#\$	/ITC Bookman Demi
ITC Bookman Demi Italic	<i>ABCDabcd1234!@#\$</i>	/ITC Bookman Demi Italic
ITC Bookman Light Italic	<i>ABCDabcd1234!@#\$</i>	/ITC Bookman Light Italic
ITC Zapf Chancery Medium Italic	<i>ABCDabcd1234!@#\$</i>	/ITC Zapf Chancery Medium Italic
ITC Zapf Dingbats	☆†‡•◊◉◊*~∞~∞✓✓✂✂	/ITC Zapf Dingbats

HPLJ3 Font List

1. Bitmap Fonts

Font Name & Print Sample	Pitch	Point	Orien- tation	Symbol set	Escape Sequence
Courier Medium Upright ABCDEFghijÀ Â°ÇÑî;£\$ê#\$ @[]^`{ }~	10	12	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p10.00h12.0v0s0b3T Esc (0NEsc (s0p10.00h12.0v0s0b3T Esc (10UEsc (s0p10.00h12.0v0s0b3T Esc (11UEsc (s0p10.00h12.0v0s0b3T Esc (12UEsc (s0p10.00h12.0v0s0b3T Esc (1UEsc (s0p10.00h12.0v0s0b3T
Courier Medium Upright ABCDEFghijÀÂ° ÇÑî;£\$ê#\$@[]^ `{ }~123éàè	12	10	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p12.00h10.0v0s0b3T Esc (0NEsc (s0p12.00h10.0v0s0b3T Esc (10UEsc (s0p12.00h10.0v0s0b3T Esc (11UEsc (s0p12.00h10.0v0s0b3T Esc (12UEsc (s0p12.00h10.0v0s0b3T Esc (1UEsc (s0p12.00h10.0v0s0b3T
Courier Medium Italic ABCDEFghijÀ Â°ÇÑî;£\$ê#\$ @[]^`{ }~	10	12	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p10.00h12.0v1s0b3T Esc (0NEsc (s0p10.00h12.0v1s0b3T Esc (10UEsc (s0p10.00h12.0v1s0b3T Esc (11UEsc (s0p10.00h12.0v1s0b3T Esc (12UEsc (s0p10.00h12.0v1s0b3T Esc (1UEsc (s0p10.00h12.0v1s0b3T
Courier Medium Italic ABCDEFghijÀÂ° ÇÑî;£\$ê#\$@[]^ `{ }~123éàè	12	10	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p12.00h10.0v1s0b3T Esc (0NEsc (s0p12.00h10.0v1s0b3T Esc (10UEsc (s0p12.00h10.0v1s0b3T Esc (11UEsc (s0p12.00h10.0v1s0b3T Esc (12UEsc (s0p12.00h10.0v1s0b3T Esc (1UEsc (s0p12.00h10.0v1s0b3T
Courier Bold Upright ABCDEFghijÀ Â°ÇÑî;£\$ê#\$ @[]^`{ }~	10	12	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p10.00h12.0v0s3b3T Esc (0NEsc (s0p10.00h12.0v0s3b3T Esc (10UEsc (s0p10.00h12.0v0s3b3T Esc (11UEsc (s0p10.00h12.0v0s3b3T Esc (12UEsc (s0p10.00h12.0v0s3b3T Esc (1UEsc (s0p10.00h12.0v0s3b3T
Courier Bold Upright ABCDEFghijÀÂ° ÇÑî;£\$ê#\$@[]^ `{ }~123éàè	12	10	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p12.00h10.0v0s3b3T Esc (0NEsc (s0p12.00h10.0v0s3b3T Esc (10UEsc (s0p12.00h10.0v0s3b3T Esc (11UEsc (s0p12.00h10.0v0s3b3T Esc (12UEsc (s0p12.00h10.0v0s3b3T Esc (1UEsc (s0p12.00h10.0v0s3b3T
Line Printer Medium Upright ABCDEFghijÀÂ°ÇÑî;£\$ ê#\$@[]^`{ }~123éàè öÄåæÄÜßÀÐÒ	16.67	8.5	P&L	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (s0p16.67h8.5v0s0b0T Esc (0NEsc (s0p16.67h8.5v0s0b0T Esc (10UEsc (s0p16.67h8.5v0s0b0T Esc (11UEsc (s0p16.67h8.5v0s0b0T Esc (12UEsc (s0p16.67h8.5v0s0b0T Esc (1UEsc (s0p16.67h8.5v0s0b0T

2. Scalable Fonts

Font Name & Print Sample	Symbol set	Escape Sequence
CG Times Medium Upright <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$ê</i> <i>#\$@[]^'{}~123</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v0s0b4101T Esc (0NEsc (slp-v0s0b4101T Esc (10UEsc (slp-v0s0b4101T Esc (11UEsc (slp-v0s0b4101T Esc (12UEsc (slp-v0s0b4101T Esc (1UEsc (slp-v0s0b4101T
CG Times Medium Italic <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$ê</i> <i>#\$@[]^'{}~123</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v1s0b4101T Esc (0NEsc (slp-v1s0b4101T Esc (10UEsc (slp-v1s0b4101T Esc (11UEsc (slp-v1s0b4101T Esc (12UEsc (slp-v1s0b4101T Esc (1UEsc (slp-v1s0b4101T
CG Times Bold Upright <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$</i> <i>ê#\$@[]^'{}~123</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v0s3b4101T Esc (0NEsc (slp-v0s3b4101T Esc (10UEsc (slp-v0s3b4101T Esc (11UEsc (slp-v0s3b4101T Esc (12UEsc (slp-v0s3b4101T Esc (1UEsc (slp-v0s3b4101T
CG Times Bold Italic <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$ê</i> <i>#\$@[]^'{}~123</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v1s3b4101T Esc (0NEsc (slp-v1s3b4101T Esc (10UEsc (slp-v1s3b4101T Esc (11UEsc (slp-v1s3b4101T Esc (12UEsc (slp-v1s3b4101T Esc (1UEsc (slp-v1s3b4101T
Univers Medium Upright <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$</i> <i>ê#\$@[]^'{}~123</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v0s0b4148T Esc (0NEsc (slp-v0s0b4148T Esc (10UEsc (slp-v0s0b4108T Esc (11UEsc (slp-v0s0b4148T Esc (12UEsc (slp-v0s0b4148T Esc (1UEsc (slp-v0s0b4148T
Univers Medium Italic <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$</i> <i>ê#\$@[]^'{}~123</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v1s0b4148T Esc (0NEsc (slp-v1s0b4148T Esc (10UEsc (slp-v1s0b4148T Esc (11UEsc (slp-v1s0b4148T Esc (12UEsc (slp-v1s0b4148T Esc (1UEsc (slp-v1s0b4148T
Univers Bold Upright <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$</i> <i>ê#\$@[]^'{}~12</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v0s3b4148T Esc (0NEsc (slp-v0s3b4148T Esc (10UEsc (slp-v0s3b4148T Esc (11UEsc (slp-v0s3b4148T Esc (12UEsc (slp-v0s3b4148T Esc (1UEsc (slp-v0s3b4148T
Univers Bold Italic <i>ABCDEFGHIJÀÂ°ÇÑıŁ£\$</i> <i>ê#\$@[]^'{}~12</i>	ROMAN-8 ECMA-94 PC-8 PC-8 DN PC-850 LEGAL	Esc (8UEsc (slp-v1s3b4148T Esc (0NEsc (slp-v1s3b4148T Esc (10UEsc (slp-v1s3b4148T Esc (11UEsc (slp-v1s3b4148T Esc (12UEsc (slp-v1s3b4148T Esc (1UEsc (slp-v1s3b4148T

IBM Font List

Font Name	Print Sample	Pitch	Orientation
Courier Medium Upright	ABCDEabcde12345!	10	Portrait & Landscape
Prestige Elite Medium Upright	ABCDEabcde12345!"#\$	12	Portrait & Landscape

Epson Font List

Font Name	Print Sample	Pitch	Orientation
Courier Medium Upright	ABCDEabcde12345!	10	Portrait & Landscape
Courier Medium Italic	<i>ABCDEabcde12345!</i>	10	Portrait & Landscape
Prestige Elite Medium Upright	ABCDEabcde12345!"#\$	12	Portrait & Landscape
Prestige Elite Medium Italic	<i>ABCDEabcde12345!"#\$</i>	12	Portrait & Landscape
Courier Medium Upright	ABCDEabcde12345!"#\$	17	Portrait & Landscape
Courier Medium Italic	<i>ABCDEabcde12345!"#\$</i>	17	Portrait & Landscape
Prestige Elite Medium Upright	ABCDEabcde12345!"#\$	20	Portrait & Landscape
Prestige Elite Medium Italic	<i>ABCDEabcde12345!"#\$</i>	20	Portrait & Landscape

TrueImage Character Sets

1. General character set

32	33	34	35	36	37	38	39	40	41	42	43	44	45
space	exclm	quotedbl	numbersgn	dollar	percent	ampersand	quoteright	parenleft	parenright	asterisk	plus	comma	hyphen
46	47	48	49	50	51	52	53	54	55	56	57	58	59
period	slash	zero	one	two	three	four	five	six	seven	eight	nine	colon	semicolon
60	61	62	63	64	65	66	67	68	69	70	71	72	73
less	equal	greater	question	at	A	B	C	D	E	F	G	H	I
74	75	76	77	78	79	80	81	82	83	84	85	86	87
J	K	L	M	N	O	P	Q	R	S	T	U	V	W
88	89	90	91	92	93	94	95	96	97	98	99	100	101
X	Y	Z	bracketleft	backslash	bracketright	asciicircum	underscore	quoteleft	a	b	c	d	e
102	103	104	105	106	107	108	109	110	111	112	113	114	115
f	g	h	i	j	k	l	m	n	o	p	q	r	s
116	117	118	119	120	121	122	123	124	125	126	161	162	163
t	u	v	w	x	y	z	braceleft	bar	braceright	asciitilde	exclamdown	cent	sterling
164	165	166	167	168	169	170	171	172	173	174	175	177	178
fraction	yen	florin	section	currency	quotesingle	quotedblleft	guillemotleft	guillemotright	guillemotright	fi	fl	endash	dagger
179	180	182	183	184	185	186	187	188	189	191	193	194	195
daggerdbl	periodcentered	paragraph	bullet	quotering	base	quotedblbase	quotedblright	guillemotright	ellipsis	perthousand	questiondown	grave	acute
196	197	198	199	200	202	203	205	206	207	208	225	227	232
tilde	macron	breve	dotaccent	dieresis	ring	cedilla	hungarumlaut	ogonek	caron	endash	AE	ordfeminine	Lslash
233	234	235	241	245	248	249	250	251					
Oslash	OE	ordmasculine	ae	dotlessi	lslash	oslash	oe	germandbls	logicalnot	ogonek	Yacute	summation	Ccedilla
252	253	254	255	256	257	258	259	260	261	262	263	264	265
ydiaeresis	integral	onequarter	Onide	Gbreve	Ederesis	Aacute	Zcaron	approxigual	notequal	grave	Uacute	pluminus	scaron
266	267	268	269	270	271	272	273	274	275	276	277	278	279
u	S	a	o	h	i	a	A	e	A	o	U	n	3/4
280	281	282	283	284	285	286	287	288	289	290	291	292	293
grave	Scedilla	partialdiff	lozenge	minus	acute	adieresis	Atilde	ccircumflex	Acircumflex	odieresis	Uderesis	nide	threequarters
294	295	296	297	298	299	300	301	302	303	304	305	306	307
I	e	registered	ocute	brokenbar	Aring	thorn	yscute	franc	Ccaron	Egrave	Ograve	edieresis	Cacute
308	309	310	311	312	313	314	315	316	317	318	319	320	321
Idieresis	ecute	registered	ocute	brokenbar	Aring	thorn	yscute	franc	Ccaron	Egrave	Ograve	edieresis	Cacute
322	323	324	325	326	327	328	329	330	331	332	333	334	335
s	g	u	o	i	mu	Y	pi	u	TM	x	o	radical	S
336	337	338	339	340	341	342	343	344	345	346	347	348	349
accedilla	gbreve	ccircumflex	ccircumflex	ccircumflex	mu	Yderesis	pi	uacute	trademark	multiply	degree	radical	Scaron
350	351	352	353	354	355	356	357	358	359	360	361	362	363
a	U	Omega	product	Delta	uieresis	iacute	ugrave	Adieresis	twosuperior	greaterequal	eth	Idieresis	dmacron
364	365	366	367	368	369	370	371	372	373	374	375	376	377
stilde	Ugrave	Omega	product	Delta	uieresis	iacute	ugrave	Adieresis	twosuperior	greaterequal	eth	Idieresis	dmacron
378	379	380	381	382	383	384	385	386	387	388	389	390	391
C	O	N	E	U	O	I	a		e	p	O	a	a
392	393	394	395	396	397	398	399	400	401	402	403	404	405
copyright	Odieresis	Nide	Eacute	Uccircumflex	Ocircumflex	Iccircumflex	aring	divide	osgrave	thorn	Oacute	acute	acircumflex
406	407	408	409	410	411	412	413	414	415	416	417	418	419
c	a	infinity	lessequal	Agrave	Eccircumflex	Igrave	zcaron	Eth	onesuperior	threesuperior	onehalf	Idot	cacute
420	421	422	423	424	425	426	427	428	429	430	431	432	433
ccedilla	otilde	infinity	lessequal	Agrave	Eccircumflex	Igrave	zcaron	Eth	onesuperior	threesuperior	onehalf	Idot	cacute
434	435	436	437	438	439	440	441	442	443	444	445	446	447
ccedilla	otilde	infinity	lessequal	Agrave	Eccircumflex	Igrave	zcaron	Eth	onesuperior	threesuperior	onehalf	Idot	cacute

2. Symbol character set

32	33	34	35	36	37	38	39	40	41	42	43	44	45
space	exclam	universal	number sign	existential	percent	ampersand	suchthat	parenleft	parenright	asteriskmath	plus	comma	minus
46	47	48	49	50	51	52	53	54	55	56	57	58	59
period	slash	zero	one	two	three	four	five	six	seven	eight	nine	colon	semicolon
60	61	62	63	64	65	66	67	68	69	70	71	72	73
less	equal	greater	question	congruent	Alpha	Beta	Chi	Delta	Epsilon	Phi	Gamma	Eta	Iota
74	75	76	77	78	79	80	81	82	83	84	85	86	87
theta	Kappa	Lambda	Mu	Nu	Omicron	Pi	Theta	Rho	Sigma	Tau	Upsilon	Upsilon	Omega
88	89	90	91	92	93	94	95	96	97	98	99	100	101
Xi	Psi	Zeta	bracketleft	therefore	bracketright	perpendicular	underscore	radical	alpha	beta	chi	delta	epsilon
102	103	104	105	106	107	108	109	110	111	112	113	114	115
phi	gamma	eta	iota	phi	kappa	lambda	mu	nu	omicron	pi	theta	rho	sigma
116	117	118	119	120	121	122	123	124	125	126	127	128	129
tau	upsilon	omega	omega	xi	psi	zeta	braceleft	bar	braceright	similar	Upsilon	Upsilon	lesseq
130	131	132	133	134	135	136	137	138	139	140	141	142	143
fraction	infinity	florin	club	diamond	heart	spade	arrowboth	arrowleft	arrowup	arrowright	arrowdown	degree	pluminus
144	145	146	147	148	149	150	151	152	153	154	155	156	157
second	greaterqual	multiply	proportional	partialdiff	bullet	divide	notequal	equivalence	approx	approx	approx	approx	approx
158	159	160	161	162	163	164	165	166	167	168	169	170	171
X	S	R	P	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
172	173	174	175	176	177	178	179	180	181	182	183	184	185
aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph	aleph
186	187	188	189	190	191	192	193	194	195	196	197	198	199
E	E	E	E	E	E	E	E	E	E	E	E	E	E
200	201	202	203	204	205	206	207	208	209	210	211	212	213
element	notelement	angle	gradient	regatersu	copyrightsu	trademarksu	product	radical	dotmath	logicalnot	logicaland	logicalor	arrowdiboth
214	215	216	217	218	219	220	221	222	223	224	225	226	227
arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth	arrowdiboth
228	229	230	231	232	233	234	235	236	237	238	239	240	241
bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft	bracketleft
242	243	244	245	246	247	248	249	250	251	252	253	254	255
angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft	angleleft

3. Zapf-Dingbats character set

														
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
space	a1	a2	a202	a3	a4	a5	a119	a118	a117	a11	a12	a13	a14	a15
														
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
a15	a16	a105	a17	a18	a19	a20	a21	a22	a23	a24	a25	a26	a27	a28
														
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
a28	a6	a7	a8	a9	a10	a29	a30	a31	a32	a33	a34	a35	a36	a37
														
74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
a37	a38	a39	a40	a41	a42	a43	a44	a45	a46	a47	a48	a49	a50	a51
														
88	89	90	91	92	93	94	95	96	97	98	99	100	101	102
a51	a52	a53	a54	a55	a56	a57	a58	a59	a60	a61	a62	a63	a64	a65
														
102	103	104	105	106	107	108	109	110	111	112	113	114	115	116
a65	a66	a67	a68	a69	a70	a71	a72	a73	a74	a75	a76	a77	a78	a79
														
116	117	118	119	120	121	122	123	124	125	126	127	128	129	130
a77	a78	a79	a80	a81	a82	a83	a84	a85	a86	a87	a88	a89	a90	a91
														
164	165	166	167	168	169	170	171	172	173	174	175	176	177	178
a104	a106	a107	a108	a112	a111	a110	a109	a120	a121	a122	a123	a124	a125	a126
														
178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
a126	a127	a128	a129	a130	a131	a132	a133	a134	a135	a136	a137	a138	a139	a140
														
192	193	194	195	196	197	198	199	200	201	202	203	204	205	206
a140	a141	a142	a143	a144	a145	a146	a147	a148	a149	a150	a151	a152	a153	a154
														
206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
a154	a155	a156	a157	a158	a159	a160	a161	a163	a164	a196	a165	a192	a166	a167
														
220	221	222	223	224	225	226	227	228	229	230	231	232	233	234
a167	a168	a169	a170	a171	a172	a173	a162	a174	a175	a176	a177	a178	a179	a193
														
234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
a193	a180	a199	a181	a200	a182	a201	a183	a184	a197	a185	a194	a198	a186	a195
														
249	250	251	252	253	254	255	256	257	258	259	260	261	262	263
a195	a187	a188	a189	a190	a191	a86	a87	a90	a91	a92	a93	a94	a95	a96
														
a704	a88	a89	a90	a91	a704									

HPLJ3 Character Sets

1. ROMAN-8

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	è	P	`	p				—	à	À	Á	Þ
1 01			!	1	A	Q	a	q			Ä	Ý	ê	í	Ã	þ
2 02			"	2	B	R	b	r			Å	ÿ	ô	ø	ä	·
3 03			#	3	C	S	c	s			Ê	°	û	Æ	Ð	µ
4 04			\$	4	D	T	d	t			Ë	Ç	á	â	ð	¶
5 05			%	5	E	U	e	u			È	ç	é	í	Í	¼
6 06			&	6	F	V	f	v			Î	Ñ	ó	ø	ï	—
7 07			'	7	G	W	g	w			Ï	ñ	ú	æ	Ó	½
8 08			(	8	H	X	h	x			ˆ	ı	ä	Ä	Ö	¾
9 09			)	9	I	Y	i	y			˜	z	è	ı	Õ	*
A 10			*	:	J	Z	j	z			˘	ı	ò	Ö	õ	*
B 11			+	;	K	[	k	{			˙	ı	û	Ü	Š	«
C 12			,	<	L	\	l				˚	ı	ä	É	š	■
D 13			-	=	M	]	m	}			Û	ş	ë	ı	Ú	»
E 14			.	>	N	^	n	~			Ü	f	ö	ß	ÿ	±
F 15			/	?	O	_	o	■			ı	c	ü	ô	ÿ	

2. EC94 L1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	è	P	`	p				°	À	Ð	à	ð
1 01			!	1	A	Q	a	q			ı	±	Á	Ñ	á	ñ
2 02			"	2	B	R	b	r			ç	²	Ä	Ö	ä	ö
3 03			#	3	C	S	c	s			£	³	Å	Ó	å	ó
4 04			\$	4	D	T	d	t			¤	ˆ	Ä	Ô	ä	ô
5 05			%	5	E	U	e	u			¥	µ	Å	Õ	å	õ
6 06			&	6	F	V	f	v			¦	¶	Æ	Ö	æ	ö
7 07			'	7	G	W	g	w			§	·	Ç	×	ç	÷
8 08			(	8	H	X	h	x			¨	,	È	Ø	è	ø
9 09			)	9	I	Y	i	y			©	ı	É	Ù	é	ù
A 10			*	:	J	Z	j	z			ª	º	Ê	Ú	ê	ú
B 11			+	;	K	[	k	{			«	»	Ë	Û	ë	û
C 12			,	<	L	\	l				–	¼	Ì	Ü	ì	ü
D 13			-	=	M	]	m	}			-	½	Í	Ý	í	ý
E 14			.	>	N	^	n	~			•	¾	Î	Þ	ı	þ
F 15			/	?	O	_	o	■			ˆ	¿	Ï	ß	ı	ÿ

3. PC8

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00		►		0	è	P	`	p	Ç	É	á	⌘	⌚	⌚	α	≡
1 01	⊙	◀	!	1	A	Q	a	q	ü	æ	í	⌘	⌚	⌚	β	±
2 02	●	↕	"	2	B	R	b	r	é	æ	ó	⌘	⌚	⌚	Γ	≥
3 03	♥	!!	#	3	C	S	c	s	â	ô	ú		⌚	⌚	π	≤
4 04	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⌚	⌚	⌚	Σ	∫
5 05	⊕	§	%	5	E	U	e	u	à	ò	ñ	⌚	⌚	⌚	σ	∫
6 06	♣	-	&	6	F	V	f	v	â	û	°	⌚	⌚	⌚	μ	÷
7 07	●	⌚	'	7	G	W	g	w	Ç	ù	°	⌚	⌚	⌚	τ	≈
8 08	□	↑	(	8	H	X	h	x	ê	ÿ	¿	⌚	⌚	⌚	Φ	°
9 09	○	↓	)	9	I	Y	i	y	ë	Ö	¬	⌚	⌚	⌚	Θ	°
A 10	■	→	*	:	J	Z	j	z	è	Ü	¬	⌚	⌚	⌚	Ω	°
B 11	♂	←	+	;	K	[	k	{	ÿ	ç	½	⌚	⌚	⌚	δ	√
C 12	♀	~	,	<	L	\	l		î	é	¼	⌚	⌚	⌚	∞	°
D 13	♂	↔	-	=	M	]	m	}	ï	¥	¼	⌚	⌚	⌚	φ	°
E 14	♂	▲	.	>	N	^	n	~	Ä	℞	«	⌚	⌚	⌚	ε	°
F 15	⊗	▼	/	?	O	_	o	△	Å	f	»	⌚	⌚	⌚	∩	

4. PC8 DN

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00		►		0	è	P	`	p	Ç	É	á	⌘	⌚	⌚	α	≡
1 01	⊙	◀	!	1	A	Q	a	q	ü	æ	í	⌘	⌚	⌚	β	±
2 02	●	↕	"	2	B	R	b	r	é	æ	ó	⌘	⌚	⌚	Γ	≥
3 03	♥	!!	#	3	C	S	c	s	â	ô	ú		⌚	⌚	π	≤
4 04	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⌚	⌚	⌚	Σ	∫
5 05	⊕	§	%	5	E	U	e	u	à	ò	ñ	⌚	⌚	⌚	σ	∫
6 06	♣	-	&	6	F	V	f	v	â	û	ö	⌚	⌚	⌚	μ	÷
7 07	●	⌚	'	7	G	W	g	w	Ç	ù	Ö	⌚	⌚	⌚	τ	≈
8 08	□	↑	(	8	H	X	h	x	ê	ÿ	¿	⌚	⌚	⌚	Φ	°
9 09	○	↓	)	9	I	Y	i	y	ë	Ö	ā	⌚	⌚	⌚	Θ	°
A 10	■	→	*	:	J	Z	j	z	è	Ü	Ä	⌚	⌚	⌚	Ω	°
B 11	♂	←	+	;	K	[	k	{	ÿ	ø	ℓ	⌚	⌚	⌚	δ	√
C 12	♀	~	,	<	L	\	l		î	é	ñ	⌚	⌚	⌚	∞	°
D 13	♂	↔	-	=	M	]	m	}	ï	ø	¼	⌚	⌚	⌚	φ	°
E 14	♂	▲	.	>	N	^	n	~	Ä	ℓ	»	⌚	⌚	⌚	ε	°
F 15	⊗	▼	/	?	O	_	o	△	Å	ℓ	»	⌚	⌚	⌚	∩	

5. PC-850

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00		►		0	@	P	`	p	Ç	É	á	⌘	⌚	ó	-	
1 01	◊	◄	!	1	A	Q	a	q	ü	æ	í	⌘	⌚	ð	ß	±
2 02	●	↑	"	2	B	R	b	r	é	Æ	ó	⌘	⌚	Ê	Ô	=
3 03	♥	!!	#	3	C	S	c	s	â	ô	ú		†	È	Ò	¼
4 04	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	†	-	È	ò	¶
5 05	+	§	%	5	E	U	e	u	à	ò	Ñ	Á	†	ı	Õ	§
6 06	◆	-	&	6	F	V	f	v	á	ú	*	À	ā	í	μ	÷
7 07	●	↓	'	7	G	W	g	w	ç	ù	°	À	Ā	î	þ	.
8 08	◻	↑	(	8	H	X	h	x	ê	ÿ	¿	◊	⌚	İ	þ	°
9 09	○	↓	)	9	I	Y	i	y	ë	Ö	•	†	†	ı	Ú	..
A 10	■	→	*	:	J	Z	j	z	è	Ü	-		⌚	ı	Û	.
B 11	ø	←	+	;	K	[	k	{	ï	ø	¼	†	†	⌘	Û	ˆ
C 12	♀	~	,	<	L	\	l		ı	é	¼	†	†	■	ý	ˆ
D 13	♫	↔	-	=	M	]	m	}	ı	Ø	:	◊	-		Ÿ	ˆ
E 14	♫	▲	.	>	N	^	n	~	Ä	×	«	¥	†	ı	-	•
F 15	⊗	▼	/	?	O	_	o	◊	Å	f	»	†	⌘	■	-	

6. LEGAL

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	[	k	§								
C 12			,	-	L	•	ı	¶								
D 13			-	=	M	]	m	†								
E 14			.	¢	N	°	n	™								
F 15			/	?	O	_	◊	⌘								

7. ISO-2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			¤	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	[	k	{								
C 12			,	<	L	\	l									
D 13			-	=	M	]	m	}								
E 14			.	>	N	^	n	~								
F 15			/	?	O	_	o									

8. ISO-4

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			£	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	[	k	{								
C 12			,	<	L	\	l									
D 13			-	=	M	]	m	}								
E 14			.	>	N	^	n	~								
F 15			/	?	O	_	o									

9. ISO-6

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	è	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	[	k	{								
C 12			,	<	L	\	l									
D 13			-	=	M	]	m	}								
E 14			.	>	N	^	n	~								
F 15			/	?	O	_	o	■								

10. ISO-10

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	è	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Ä	k	ä								
C 12			,	<	L	Ö	l	ö								
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E 14			.	>	N	ˆ	n	˘								
F 15			/	?	O	_	o	■								

11. ISO-11

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	É	P	é	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			¤	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Ä	k	ä								
C 12			,	<	L	Ö	l	ö								
D 13			-	=	M	Å	m	å								
E 14			.	>	N	Ü	n	ü								
F 15			/	?	O	_	o									

12. ISO-14

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	[	k	{								
C 12			,	<	L	¥	l									
D 13			-	=	M	]	m	}								
E 14			.	>	N	^	n	~								
F 15			/	?	O	_	o									

13. ISO-15

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	§	P	ù	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			£	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			¥	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	°	k	à								
C 12			,	<	L	ç	l	ò								
D 13			-	=	M	é	m	è								
E 14			.	>	N	^	n	ì								
F 15			/	?	O	_	o	ï								

14. ISO-16

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	§	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			¥	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Ã	k	ã								
C 12			,	<	L	Ç	l	ç								
D 13			-	=	M	Ö	m	ö								
E 14			.	>	N	^	n	°								
F 15			/	?	O	_	o	ï								

15. ISO-17

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	\$	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			£	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	I	k	'								
C 12			,	<	L	Ñ	l	ñ								
D 13			-	=	M	¿	m	ç								
E 14			.	>	N	^	n	-								
F 15			/	?	O	_	o	■								

16. ISO-21

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	\$	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Ä	k	ä								
C 12			,	<	L	Ö	l	ö								
D 13			-	=	M	Ü	m	ü								
E 14			.	>	N	^	n	ß								
F 15			/	?	O	_	o	■								

17. ISO-25

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	à	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			£	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			¥	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	`	k	é								
C 12			,	<	L	ç	l	û								
D 13			-	=	M	§	m	è								
E 14			.	>	N	^	n	''								
F 15			/	?	O	_	o	■								

18. ISO-57

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			¥	4	D	T	d	t								
5 05			£	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	[	k	{								
C 12			,	<	L	\	l									
D 13			-	=	M	]	m	}								
E 14			.	>	N	^	n	~								
F 15			/	?	O	_	o	■								

19. ISO-60

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Æ	k	æ								
C 12			,	<	L	Ø	l	ø								
D 13			-	=	M	Å	m	å								
E 14			.	>	N	^	n	—								
F 15			/	?	O	_	o	⌘								

20. ISO-61

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			\$	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Æ	k	æ								
C 12			,	<	L	Ø	l	ø								
D 13			-	=	M	Å	m	å								
E 14			.	>	N	^	n									
F 15			/	?	O	_	o	⌘								

21. ISO-69

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	à	P	µ	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			£	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	•	k	é								
C 12			,	<	L	Ç	l	û								
D 13			-	=	M	§	m	è								
E 14			.	>	N	^	n	''								
F 15			/	?	O	_	o	■								

22. ISO-84

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	·	P	·	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Ã	k	ã								
C 12			,	<	L	Ç	l	ç								
D 13			-	=	M	Ö	m	ö								
E 14			.	>	N	·	n	·								
F 15			/	?	O	_	o	■								

23. ISO-85

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	·	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			#	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	ı	k	´								
C 12			,	<	L	Ñ	l	ñ								
D 13			-	=	M	Ç	m	ç								
E 14			.	>	N	ı	n	¨								
F 15			/	?	O	—	o	•								

24. GERMAN

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	\$	P	`	p								
1 01			!	1	A	Q	a	q								
2 02			"	2	B	R	b	r								
3 03			£	3	C	S	c	s								
4 04			\$	4	D	T	d	t								
5 05			%	5	E	U	e	u								
6 06			&	6	F	V	f	v								
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x								
9 09			)	9	I	Y	i	y								
A 10			*	:	J	Z	j	z								
B 11			+	;	K	Ä	k	ä								
C 12			,	<	L	Ö	l	ö								
D 13			-	=	M	Ü	m	ü								
E 14			.	>	N	^	n	ß								
F 15			/	?	O	—	o	•								

25. SPANISH

		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
		000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0	00				0	ë	P	·	p								
1	01			!	1	A	Q	a	q								
2	02			"	2	B	R	b	r								
3	03			#	3	C	S	c	s								
4	04			\$	4	D	T	d	t								
5	05			%	5	E	U	e	u								
6	06			&	6	F	V	f	v								
7	07			'	7	G	W	g	w								
8	08			(	8	H	X	h	x								
9	09			)	9	I	Y	i	y								
A	10			*	:	J	Z	j	z								
B	11			+	;	K	:	k	{								
C	12			,	<	L	Ñ	l	ñ								
D	13			-	=	M	¿	m	}								
E	14			.	>	N	°	n	~								
F	15			/	?	O	_	o	■								

26. VN MATH

		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
		000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0	00				0	≡	Π	—	π			◇	®	≤	↓		Π
1	01			!	1	A	Θ	α	θ			✓	▷	◆	←	·	™
2	02			√	2	B	P	β	ρ				≥	≥	®	∠	≡
3	03			#	3	X	Σ	χ	σ					θ	"		≡
4	04			∃	4	Δ	T	δ	τ					n	f		√
5	05			%	5	E	Υ	ε	υ				♣	'	∫	}	Σ
6	06			&	6	Φ	ς	φ	ω				⊕	℔	©		™
7	07			ə	7	Γ	Ω	γ	ω				⊗	ρ	±	)	
8	08			(	8	H	Ξ	η	ξ			↑	⊆	∞	→		┘
9	09			)	9	I	Ψ	ι	ψ			⇒	U	♠	↑	└	∅
A	10			*	:	∂	Z	φ	ζ			↓	—	α	≠	▽	∩
B	11			+	;	K	[	κ	{			ℤ	...	•	≡		∈
C	12			,	<	Λ	∴	λ				C		/	°		©
D	13			-	=	M	]	μ	}				∧	♥	↔		≠
E	14			.	>	N	⊥	ν	~				←	×			
F	15			/	?	O	_	o					≈	T		÷	<

27. VN INTL

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	'	p			„	‰	â	Á	Á	Œ
1 01			!	1	A	Q	a	q			À	“	è	ì	Ã	œ
2 02			”	2	B	R	b	r			Â	”	ô	Ø	ä	ŕ
3 03			#	3	C	S	c	s			È	°	ù	Æ		†
4 04			\$	4	D	T	d	t			Ê	Ç	á	â		‡
5 05			%	5	E	U	e	u			Ë	ç	é	í	Í	—
6 06			&	6	F	V	f	v			Î	Ñ	ó	ø	ì	-
7 07			'	7	G	W	g	w			Ï	ñ	ú	æ	Ó	
8 08			(	8	H	X	h	x			©	ì	à	Ä	Ò	
9 09			)	9	I	Y	i	y			®	í	è	ï	Ö	ª
A 10			*	:	J	Z	j	z			™	ü	ò	Õ	õ	º
B 11			+	;	K	[	k	{			‹	£	ù	Ü	Š	«
C 12			,	<	L	\	l				›	¥	ä	É	š	•
D 13			-	=	M	]	m	}			Ù	§	ë	ï	Ú	»
E 14			.	>	N	^	n	~			Û	ƒ	ö	ß	ÿ	
F 15			/	?	O	_	o					¢	ü	Ô	ÿ	...

28. VN US

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	'	p			„	‰				
1 01			!	1	A	Q	a	q				“				
2 02			”	2	B	R	b	r				”				ŕ
3 03			#	3	C	S	c	s				°				†
4 04			\$	4	D	T	d	t								‡
5 05			%	5	E	U	e	u								—
6 06			&	6	F	V	f	v								-
7 07			'	7	G	W	g	w								
8 08			(	8	H	X	h	x			©					
9 09			)	9	I	Y	i	y			®					
A 10			*	:	J	Z	j	z			™					
B 11			+	;	K	[	k	{								
C 12			,	<	L	\	l									•
D 13			-	=	M	]	m	}				§				
E 14			.	>	N	^	n	~								
F 15			/	?	O	_	o					¢				...

29. PS MATH

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00			0	≡	Π	—	π					°	κ	∠	◇	
1 01			!	1	A	Θ	α	θ			T	±	∫	∇	<	>
2 02			√	2	B	P	β	ρ			'	"	℔	®	®	}
3 03			#	3	X	Σ	χ	σ			≤	≥	ρ	©	©	
4 04			∃	4	Δ	T	δ	τ			/	×	⊗	™	™	
5 05			%	5	E	Υ	ε	υ			∞	α	⊕	Π	Σ	J
6 06			&	6	Φ	ς	φ	ω			f	∂	∅	✓		
7 07			∞	7	Γ	Ω	γ	ω			♣	•	∩	·		
8 08			(	8	H	Ξ	η	ξ			♦	÷	U	¬		
9 09			)	9	I	Ψ	ι	ψ			♥	≠	⊃	∧		
A 10			*	:	∅	Z	φ	ζ			♠	≡	⊇	∨		
B 11			+	:	K	[	κ	{			↔	≈	∠	⇒		
C 12			,	<	Λ	∴	λ				←	...	⊂	←		
D 13			-	=	M	]	μ	}			↑		⊆	↑	{	}
E 14			.	>	N	⊥	ν	~			→	-	∈	⇒		
F 15			/	?	O	_	o				↓	←	∉	↓		

30. PS TEXT

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00			0	@	P	'	p							—		
1 01			!	1	A	Q	a	q			i	-	'		Æ	æ
2 02			"	2	B	R	b	r			c	†	'			
3 03			#	3	C	S	c	s			f	‡	^		a	
4 04			\$	4	D	T	d	t			/	.	-			
5 05			%	5	E	U	e	u			¥		-			ı
6 06			&	6	F	V	f	v			f	¶	-			
7 07			'	7	G	W	g	w			§	•	-			
8 08			(	8	H	X	h	x			□	,	-		L	l
9 09			)	9	I	Y	i	y			'	"			Ø	ø
A 10			*	:	J	Z	j	z			"	"	'		Œ	œ
B 11			+	:	K	[	k	{			«	»	,		°	ß
C 12			,	<	L	\	l				◀	...				
D 13			-	=	M	]	m	}			›	‰	-			
E 14			.	>	N	^	n	~			fi					
F 15			/	?	O	_	o				fl	ı	-			

31. MATH-8

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	∴	Π	∴	π				—	⊕	Å	┌	┐
1 01			✓	1	A	P	α	ρ			†	√	○	→	└	┘
2 02			"	2	B	Σ	β	σ			→	∃	⊗	└	└	└
3 03			°	3	Γ	T	γ	τ			↓	T	⊖	└	{	}
4 04			∞	4	Δ	T	δ	υ			←	⊥	⊙	⇒	└	┘
5 05			÷	5	E	Φ	ε	φ			↑	U	∧	└	└	└
6 06			α	6	Z	X	ζ	χ			⇒	∩	∨	†	φ	└
7 07			'	7	H	Ψ	η	ψ			↓	∈	∇	∠	└	┘
8 08			(	8	Θ	Ω	θ	ω			←	⊃	⊂	⊙	∇	↖
9 09			)	9	I	∇	ι	∂			†	∉	○	≠		>
A 10			×	e	K	∂	κ	φ			↔	C	·	∩	∠	└
B 11			+	ε	Λ	ς	λ	ω			§	∩	·	∩	/	\
C 12			,	<	M	≤	μ	≈			↔	∠	·	∠	—	<
D 13			—	=	N	≠	ν	≡			↔	∠	○	∩	=	≠
E 14			.	>	ℤ	≥	ξ	≠			↔	∩	†	∩	*	±
F 15			/	≈	O	—	o	⊗			—	∩	†	∩	≡	

32. PIFONT

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				—	∴	∅	┌	┐								
1 01				—	Δ	ρ	└	┘								
2 02			"	—		R	└	┘								
3 03			,	—		Σ	└	┘								
4 04			"	↗			+	—								
5 05			"	↘			└	┘								
6 06			'	↗	f		—	└								
7 07			'	↘												
8 08			<	Δ	h		U	U								
9 09			>	▷			∩	∩								
A 10			™	∇			┌	┐								
B 11			™	Δ			┌	┐								
C 12			•	◀	ℒ		□	■								
D 13			•	§	ℓ	]	◇	◆								
E 14			•	▶		'										
F 15				↑		'	⊗									

33. MS PUBL

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00					2		.					°			Ω	
1 01			1									•	ˆ	ˆ		
2 02			"		R						"	•	ˆ	ˆ		
3 03			3		Š	%	§				ˆ	•	ˆ	ˆ		
4 04			4		™						ˆ	°	ˆ	ˆ		
5 05			5									°	ˆ	ˆ		ı
6 06			7									°	ˆ	ˆ	U	ıj
7 07			.									■	ˆ	ˆ	L	ı
8 08			9									■	ˆ	ˆ	L	ı
9 09			0		Ÿ						fi	■				
A 10			8		Ž		ž				fi	□	ˆ	ˆ		
B 11			†								ff	□	ˆ	ˆ		
C 12			.	"		l					ff	□				
D 13			-	‡	-						ff	%	ˆ	ˆ		
E 14			...		-	°		"		Pt	ˆ	•	ˆ	ˆ		
F 15			/		Œ	-	œ			f	ˆ	◊	ˆ	ˆ	ˆ	

34. WINDOWS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	`	p				°	À	Đ	à	đ
1 01			!	1	A	Q	a	q		.	ı	±	Á	Ñ	á	ñ
2 02			"	2	B	R	b	r		'	c	²	Â	Ò	â	ò
3 03			#	3	C	S	c	s			£	³	Ã	Ó	ã	ó
4 04			\$	4	D	T	d	t			¤	ˆ	Ä	Ô	ä	ö
5 05			%	5	E	U	e	u			¥	μ	Å	Õ	å	ö
6 06			&	6	F	V	f	v				¶	Æ	Ö	æ	ö
7 07			'	7	G	W	g	w			§	ˆ	Ç	×	ç	÷
8 08			(	8	H	X	h	x			"	ˆ	È	Ø	è	ø
9 09			)	9	I	Y	i	y			•	ˆ	É	Ù	é	ù
A 10			*	:	J	Z	j	z			²	°	Ê	Ú	ê	ú
B 11			+	;	K	[	k	{			«	»	Ë	Û	ë	û
C 12			,	<	L	\	l				¬	¼	Ì	Ü	ì	ü
D 13			-	=	M	]	m	}			-	½	Í	Ý	í	ý
E 14			.	>	N	^	n	~			•	¾	Î	Þ	î	þ
F 15			/	?	O	_	o	~			-	¿	Ï	ß	ï	ÿ

35. DESKTOP

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	000	016	032	048	064	080	096	112	128	144	160	176	192	208	224	240
0 00				0	@	P	'	p				"	—	'	ª	'
1 01			!	1	A	Q	a	q			¶	"	±	'	º	'
2 02			"	2	B	R	b	r			§	µ	×	«	æ	'
3 03			#	3	C	S	c	s			†	‰	÷	»	Æ	'
4 04			\$	4	D	T	d	t			‡	•	°	'	ð	'
5 05			%	5	E	U	e	u			©	●	'	"	Ð	'
6 06			&	6	F	V	f	v			®	◊	"	'	í	'
7 07			'	7	G	W	g	w			™	○	¼	'	Ï	'
8 08			(	8	H	X	h	x			‰	■	½	'	ì	'
9 09			)	9	I	Y	i	y			¢	■	¾	Pt	Ë	'
A 10			*	:	J	Z	j	z			—	□	'	ℓ	œ	'
B 11			+	;	K	[	k	{			—	□	²	£	Œ	'
C 12			,	<	L	\	l				...	'	³	¥	ø	'
D 13			-	=	M	]	m	}			fi	¬	/	□	Ø	'
E 14			.	>	N	^	n	~			fi			f	þ	'
F 15			/	?	O	_	o	⌘				—		ß	Ɔ	

IBM ProPrinter Character Sets

1. Multi Set 1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL			0	é	P	`	p	Ç	É	á	⌘	⌘	⌘	α	≡
1		DC1	!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	β	±
2		DC2	"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	Γ	≥
3		DC3	#	3	C	S	c	s	â	ô	ú	⌘	⌘	⌘	π	≤
4		DC4	\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	⌘	Σ	∫
5			%	5	E	U	e	u	à	ò	Ñ	⌘	⌘	⌘	σ	∫
6			&	6	F	V	f	v	â	û	*	⌘	⌘	⌘	μ	÷
7	BEL		'	7	G	W	g	w	ç	ù	°	⌘	⌘	⌘	τ	≈
8	BS CAN	(	8	H	X	h	x	ê	ÿ	¿	⌘	⌘	⌘	⌘	Φ	•
9	HT	)	9	I	Y	i	y	ë	Ö	¬	⌘	⌘	⌘	⌘	Θ	•
A	LF	*	:	J	Z	j	z	è	Ü	¬	⌘	⌘	⌘	⌘	Ω	•
B	VT ESC	+	;	K	[	k	{	ÿ	ç	½	⌘	⌘	⌘	⌘	δ	✓
C	FF	,	<	L	\	l		ï	é	¼	⌘	⌘	⌘	⌘	∞	°
D	CR	-	=	M	]	m	}	ì	¥	¡	⌘	⌘	⌘	⌘	φ	²
E	SO	.	>	N	^	n	~	Ä	ß	«	⌘	⌘	⌘	⌘	€	▪
F	SI	/	?	O	_	o		À	f	»	⌘	⌘	⌘	⌘	∩	

2. Multi Set 2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL			0	é	P	`	p	NUL		á	⌘	⌘	⌘	α	≡
1		DC1	!	1	A	Q	a	q		DC1	í	⌘	⌘	⌘	β	±
2		DC2	"	2	B	R	b	r		DC2	ó	⌘	⌘	⌘	Γ	≥
3		DC3	#	3	C	S	c	s		DC3	ú	⌘	⌘	⌘	π	≤
4		DC4	\$	4	D	T	d	t		DC4	ñ	⌘	⌘	⌘	Σ	∫
5			%	5	E	U	e	u			Ñ	⌘	⌘	⌘	σ	∫
6			&	6	F	V	f	v			*	⌘	⌘	⌘	μ	÷
7	BEL		'	7	G	W	g	w	BEL		°	⌘	⌘	⌘	τ	≈
8	BS CAN	(	8	H	X	h	x	BS CAN		¿	⌘	⌘	⌘	⌘	Φ	•
9	HT	)	9	I	Y	i	y	HT		¬	⌘	⌘	⌘	⌘	Θ	•
A	LF	*	:	J	Z	j	z	LF		¬	⌘	⌘	⌘	⌘	Ω	•
B	VT ESC	+	;	K	[	k	{	VT ESC		½	⌘	⌘	⌘	⌘	δ	✓
C	FF	,	<	L	\	l		FF		¼	⌘	⌘	⌘	⌘	∞	°
D	CR	-	=	M	]	m	}	CR		¡	⌘	⌘	⌘	⌘	φ	²
E	SO	.	>	N	^	n	~	SO		«	⌘	⌘	⌘	⌘	€	▪
F	SI	/	?	O	_	o		SI		»	⌘	⌘	⌘	⌘	∩	

3. Multi All

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	ø	►		0	ø	P	`	p	Ç	É	á	⌘	⌘	⌘	⌘	⌘
1	⊙	◀	!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	⌘	⌘
2	●	↕	"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	⌘	⌘
3	♥	!!	#	3	C	S	c	s	â	ô	ú	⌘	⌘	⌘	⌘	⌘
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	⌘	⌘	⌘
5	⊕	§	%	5	E	U	e	u	à	ò	Ñ	⌘	⌘	⌘	⌘	⌘
6	♣	-	&	6	F	V	f	v	å	û	•	⌘	⌘	⌘	⌘	⌘
7	•	⌄	'	7	G	W	g	w	ç	ù	°	⌘	⌘	⌘	⌘	⌘
8	□	↑	(	8	H	X	h	x	ê	ÿ	¿	⌘	⌘	⌘	⌘	⌘
9	○	↓	)	9	I	Y	i	y	ë	Ö	¬	⌘	⌘	⌘	⌘	⌘
A	■	→	*	:	J	Z	j	z	è	Ü	¬	⌘	⌘	⌘	⌘	⌘
B	ø	←	+	;	K	[	k	{	ï	ç	½	⌘	⌘	⌘	⌘	⌘
C	♀	¬	,	<	L	\	l		í	é	¼	⌘	⌘	⌘	⌘	⌘
D	♪	↔	-	=	M	]	m	}	ı	¥	ı	⌘	⌘	⌘	⌘	⌘
E	♪	▲	.	>	N	^	n	~	Ä	R	«	⌘	⌘	⌘	⌘	⌘
F	✱	▼	/	?	O	_	o		Å	f	»	⌘	⌘	⌘	⌘	⌘

4. USA Set 1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL			0	ø	P	`	p	NUL		á	⌘	⌘	⌘	⌘	⌘
1		DC1	!	1	A	Q	a	q		DC1	í	⌘	⌘	⌘	⌘	⌘
2		DC2	"	2	B	R	b	r		DC2	ó	⌘	⌘	⌘	⌘	⌘
3		DC3	#	3	C	S	c	s		DC3	ú	⌘	⌘	⌘	⌘	⌘
4		DC4	\$	4	D	T	d	t		DC4	ñ	⌘	⌘	⌘	⌘	⌘
5			%	5	E	U	e	u			Ñ	Á	⌘	⌘	⌘	⌘
6			&	6	F	V	f	v			•	Ä	ä	ı	μ	÷
7	BEL		'	7	G	W	g	w	BEL		°	Ä	Ä	ı	ı	•
8	BS	CAN	(	8	H	X	h	x	BS	CAN	¿	°	⌘	⌘	⌘	⌘
9	HT		)	9	I	Y	i	y	HT		•	⌘	⌘	⌘	⌘	⌘
A	LF		*	:	J	Z	j	z	LF		¬	⌘	⌘	⌘	⌘	⌘
B	VT	ESC	+	;	K	[	k	{	VT	ESC	½	⌘	⌘	⌘	⌘	⌘
C	FF		,	<	L	\	l		FF		¼	⌘	⌘	⌘	⌘	⌘
D	CR		-	=	M	]	m	}	CR		ı	ç	⌘	⌘	⌘	⌘
E	SO		.	>	N	^	n	~	SO		«	¥	⌘	⌘	⌘	⌘
F	SI		/	?	O	_	o		SI		»	⌘	⌘	⌘	⌘	⌘

5. USA Set 2

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL			0	@	P	`	p	Ç	É	á	⌘	⌘	⌘	⌘	-
1		DC1	!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	⌘	±
2		DC2	"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	⌘	=
3		DC3	#	3	C	S	c	s	â	ô	ú	⌘	⌘	⌘	⌘	¼
4		DC4	\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	⌘	⌘	¶
5			%	5	E	U	e	u	à	ò	Ñ	Á	†	‡	Ö	§
6			&	6	F	V	f	v	å	û	*	Â	ã	î	μ	÷
7	BEL		'	7	G	W	g	w	ç	ù	°	À	Ã	ï	þ	.
8	BS	CAN	(	8	H	X	h	x	ê	ÿ	¿	°	⌘	⌘	⌘	°
9	HT		)	9	I	Y	i	y	ë	Ö	•	⌘	⌘	⌘	⌘	…
A	LF		*	:	J	Z	j	z	è	Ü	¬	⌘	⌘	⌘	⌘	·
B	VT	ESC	+	;	K	[	k	{	ÿ	ø	½	⌘	⌘	⌘	⌘	¹
C	FF		,	<	L	\	l		ï	é	¼	⌘	⌘	⌘	⌘	³
D	CR		-	=	M	]	m	}	ı	Ø	ı	¢	=	ı	Y	²
E	SO		.	>	N	^	n	~	Ä	×	«	¥	⌘	⌘	⌘	•
F	SI		/	?	O	_	o		Å	f	»	⌘	⌘	⌘	⌘	

6. USA All

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	␣	▶		0	@	P	`	p	Ç	É	á	⌘	⌘	⌘	⌘	-
1	⊗	◀	!	1	A	Q	a	q	ü	æ	í	⌘	⌘	⌘	⌘	±
2	●	↕	"	2	B	R	b	r	é	Æ	ó	⌘	⌘	⌘	⌘	=
3	♥	!!	#	3	C	S	c	s	â	ô	ú	⌘	⌘	⌘	⌘	¼
4	♦	¶	\$	4	D	T	d	t	ä	ö	ñ	⌘	⌘	⌘	⌘	¶
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	Á	†	‡	Ö	§
6	♠	-	&	6	F	V	f	v	å	û	*	Â	ã	î	μ	÷
7	●	⬆	'	7	G	W	g	w	ç	ù	°	À	Ã	ï	þ	.
8	◻	↑	(	8	H	X	h	x	ê	ÿ	¿	°	⌘	⌘	⌘	°
9	○	↓	)	9	I	Y	i	y	ë	Ö	•	⌘	⌘	⌘	⌘	…
A	◼	→	*	:	J	Z	j	z	è	Ü	¬	⌘	⌘	⌘	⌘	·
B	♂	←	+	;	K	[	k	{	ÿ	ø	½	⌘	⌘	⌘	⌘	¹
C	♀	-	,	<	L	\	l		ï	é	¼	⌘	⌘	⌘	⌘	³
D	♪	↔	-	=	M	]	m	}	ı	Ø	ı	¢	=	ı	Y	²
E	♫	▲	.	>	N	^	n	~	Ä	×	«	¥	⌘	⌘	⌘	•
F	⊛	▼	/	?	O	_	o		Å	f	»	⌘	⌘	⌘	⌘	

Epson FX-850 Character Sets

1. Italic Character

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p			0	@	P	`	p	
1			!	1	A	Q	a	q			!	1	A	Q	a	q
2			"	2	B	R	b	r			"	2	B	R	b	r
3			#	3	C	S	c	s			#	3	C	S	c	s
4			\$	4	D	T	d	t			\$	4	D	T	d	t
5			%	5	E	U	e	u			%	5	E	U	e	u
6			&	6	F	V	f	v			&	6	F	V	f	v
7			'	7	G	W	g	w			'	7	G	W	g	w
8			(	8	H	X	h	x			(	8	H	X	h	x
9			)	9	I	Y	i	y			)	9	I	Y	i	y
A			*	:	J	Z	j	z			*	:	J	Z	j	z
B			+	;	K	[	k	{			+	;	K	[	k	{
C			,	<	L	\	l				,	<	L	\	l	
D			-	=	M	]	m	}			-	=	M	]	m	}
E			.	>	N	^	n	~			.	>	N	^	n	~
F			/	?	O	_	o				/	?	O	_	o	ø

2. Graphics Character

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p	Ç	É	ā	⋮	Ł	ł	α	≡
1			!	1	A	Q	a	q	ü	æ	í	⋮	⊥	⊤	β	±
2			"	2	B	R	b	r	é	Æ	ó	⋮	⊥	⊤	Γ	≥
3			#	3	C	S	c	s	â	ô	ú		†	‡	π	≤
4			\$	4	D	T	d	t	ä	ö	ñ	†	—	Ł	Σ	∫
5			%	5	E	U	e	u	à	ò	Ñ	†	†	‡	σ	∫
6			&	6	F	V	f	v	å	û	°	†	†	‡	μ	÷
7			'	7	G	W	g	w	ç	ù	°	†	†	‡	τ	≈
8			(	8	H	X	h	x	ê	ÿ	¿	†	†	‡	Φ	°
9			)	9	I	Y	i	y	ë	Ö	¬	†	†	‡	Θ	·
A			*	:	J	Z	j	z	è	Ü	¬	†	†	‡	Ω	·
B			+	;	K	[	k	{	ï	ç	½	†	†	‡	δ	√
C			,	<	L	\	l		î	£	¼	†	†	‡	∞	n
D			-	=	M	]	m	}	ï	¥	;	†	†	‡	φ	²
E			.	>	N	^	n	~	Ä	℞	«	†	†	‡	€	▪
F			/	?	O	_	o		Å	f	»	†	†	‡	∩	

Specifications

Type	Desktop, non-impact page printer
Print method	Laser diode, Fine Micro-Toning (Fine-MT) System
Print speed	10 pages per minute
Resolution	300 dots per inch
Paper sizes	A4, B5, Letter, Executive, Legal
Paper types	Standard paper (16-24lb), transparencies, labels, envelopes, thick paper (24-41lb) manual feed only
Paper feeding	Paper cassette with manual feed capability Second Paper Cassette Unit (SPCU)
Input capacity	250 sheets (up to 500)
Output capacity	150 sheets face down 50 sheets face up (option)
First print	Within 18 seconds (face down output) Within 16 seconds (face up output)
Warmup time	Less than 70 seconds
Temperature & Humidity Conditions	Storage: 32-95°F (0-35°C) and 10-85% RH Operating: 50-95°F (10-35°C) and 15-85% RH Recommended for best results: 59-77°F (15-25°C) and 35-70% RH
Machine life	300,000 pages or 5 years
Duty cycle	5,000 pages per month (average monthly print volume)
Power consumption	Less than 850W
Amperage	8.5A or less
Power supply	120V, 50-60 Hz
Noise	50 dB or less (operation) 40 dB or less (idle)
External dimensions	18.6" x 15.8" x 9.7" (473mm x 401mm x 247mm)
Weight	approximately 37.5lb (17kg)
CPU	AMD 29005/15 MHZ (PrintPartner 10) AMD 29000/15 MHZ (PrintPartner 10W)

Specifications

Resolution enhancement	Fine-ART (Advanced Resolution Technology)
Interfaces	RS232C, Centronics, AppleTalk Automatic interface switching (The AppleTalk port is only operational when the TrueImage board is installed in the PrintPartner 10/10W.)
Interface cable	6.6 feet (2m) or less shielded cable
Emulations	IBM ProPrinter XL-24e, Epson FX-850, TrueImage*, HPLJ3
Standard memory	1MB (expandable up to 9MB) PrintPartner 10 2MB (expandable up to 9MB) PrintPartner 10W
Options	Second paper cassette unit (SPCU) Face up tray (FUT) 1MB/4MB SIMM Memory Optional TrueImage* board
Resident fonts	HPLJ3: 14 bitmap fonts, 8 scalable fonts (Intellifont) TrueImage (Option): 35 outline fonts (TrueType)
Imaging cartridge life	8,000 pages (at 5% text print density)
Font cartridges	2 slots (for HP LaserJet III cartridges)
Message display	16-character LCD display (English, French, German, Italian, Spanish)

* TrueImage comes standard with the PrintPartner 10W and is an option for the PrintPartner 10.

Glossary

A

AppleTalk interface

This refers to the cable connectors used when operating the printer with a Macintosh computer.

B

Baud rate

This is the rate of data transfer per second between the printer and computer (1,200 - 19,200). This information is required for serial interface settings.

Bitmap font

This type of font is a set of characters and symbols that have a fixed size, meaning they cannot be scaled.

C

Character set

This is a selection of different characters, usually including the alphabet in both upper- and lower-case, the numerals 0-9, and other symbols such as punctuation marks. Each font is described in terms of its character set.

D

Downloading

This is the process of sending a font (or other graphic image) from a computer or cartridge to the printer.

E

Emulation mode

This is a mode of operation that permits the printer to imitate the functions of a different printer.

Escape sequence

This consists of the ESC character followed by a string of characters that provide the printer with information about what operation to perform.

F

Fine ART	This is the resolution enhancement feature for the printer. When you use this function, the fine gradations present on the edge of characters is smoothed out resulting in a "cleaner" appearance on the page.
Form feed	This refers to the process of feeding a sheet of paper into the printer.
Font	This is a unique set of characters that share certain characteristics of design resulting in a uniform appearance when printing. These characteristics include the character (or symbol) set, spacing, point, pitch, and style.
Font cartridge	This is a medium used for the storage of fonts. You can insert cartridges into the slots provided on the printer to download fonts temporarily into the printer's memory.
Fusing unit	This applies heat to fuse toner to the page.
I	
Image retention	This permits you to print extra copies of the last page of a printing job, which is retained in the printer's memory.
Image reverse	This allows black and white areas to be printed in reverse resulting in an image on that page similar to that obtained when viewing a film negative.
Image shift	This permits the specified image to be shifted along the X and Y axes of the page according to the orientation that has been selected.
Imaging cartridge	This is the heart of the laser printer. It provides the toner that is fused to the page during the printing process.
Interface	This refers to the connection between the printer and computer. There are three main types of interface available on the printer: serial, parallel, and AppleTalk.

L

Landscape

This page orientation prints characters across the length of the page in the same manner as a spreadsheet.

M

Monospacing

This type of spacing, used by bitmap fonts, provides each printed character with the same amount of space on a line.

O

Orientation

This refers to the direction of printed text on a page. There are two orientations available: landscape and portrait.

On line

When the printer is online, printing operations can be carried out. If the printer is set off-line (by using the ON LINE key), you can select or modify various settings and options.

P

Parallel interface

This refers to a type of cable connector (Centronics) used to connect the printer with a computer.

Pitch

Pitch is used for monospaced bitmap fonts. This is the number of characters per inch printed on the page. (The typewriter term Pica refers to a common pitch size - 10cpi.)

Point

One point equals 1/72 inch. This unit of measurement is used to describe the height of proportionally spaced fonts.

Portrait

This is a page orientation that prints characters across the width of the page. This page is an example of printing with a portrait orientation.

Print preview

When printing multiple copies, you can check the quality of a printout before continuing to print additional copies.

Proportional spacing

This type of spacing permits variation in the width of each printed character. Thus, a "w" is given more space on a line than an "l."

R

Resident font This type of font, also called an “internal font,” is stored permanently in the printer’s memory.

S

Scalable font Also known as “outline fonts,” this font can be shrunk or enlarged to any size when printing.

Sans serif This font has no decorative hooks or curves on the characters. The distinctive appearance that results makes this font desirable for printing headlines. The glossary entries at the left have been printed as sans serif type fonts.

Serial interface This refers to a type of cable connector (RS232C) used to connect the printer with a computer.

Serif This type of font include hooks and/or curves on the characters that give them an attractive appearance making them useful for printing body text. This definition has been printed in a serif type font.

Soft font This bitmap font can be accessed in many different sizes and styles. Soft fonts must be downloaded to the printer from a computer.

Style This refers to the upright (roman) or slanted (italic or oblique) version of the font that is used when printing.

Symbol set See character set.

T

Toner This is the powdery substance from the imaging cartridge that is used to create the printed images on the page.

Typeface This refers to the design of a particular set of characters. The uniformity of this design in a character set makes for more readable text.

W

Weight This is the stroke weight, which is the relative thickness of the lines that make up a character. Common stroke weights include light, medium, and bold.

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